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AN

EXPOSITION

OF

THE SYMPTOMS, ESSENTIAL NATURE,

AND

TREATMENT

OF

NEUROPATHY,

OR NERVOUSNESS.

BY

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TO

JAMES COPLAND, M.D. F.R.S.,

AUTHOR OF THE "DICTIONARY OF PRACTICAL MEDICINE,"

THIS TREATISE IS INSCRIBED,

IN ADMIRATION OF HIS EXTENSIVE LITERARY ACQUIREMENTS
AND PRACTICAL ACUMEN,

BY HIS OBLIGED FRIEND,

THE AUTHOR.

PREFACE.

In the long list of human maladies, perhaps none is in these days of more frequent occurrence than Neuropathy, or Nervousness. Distinguished by the name of "Hypochondriasis," it has attracted the attention of physicians in all civilized countries, from very ancient times down to the present period. But whilst much acuteness of observation has been exhibited in the delineation of the symptoms, not a little ingenuity developed in the search after the proximate cause, and some shrewdness shewn in the treatment of this nervous disorder, it seems not to have occurred to the various writers on the subject that it was only a more intense degree of a state to which, in later times, the term "nervousness" has been applied. This is the more surprising as very many of them agree in placing the cause of the malady in the viscera of the abdomen, where morbid sensations common to both the degrees of it constitute the leading phenomena. And with regard to those who, overlooking the visceral sensations, and seeing only the cerebral disorder, give the brain as the starting-point of all the symptoms, it is extraordinary that

they should not have recognised a minor degree of irritation of that organ in the phenomena of "nervousness," and connected the two states in their pathological origin.

An explanation of this may probably be found in the ignorance that so long prevailed as to the important part which the ganglionic system of nerves plays on the one hand, and in the idea of the exclusive function of the cerebro-spinal system on the other. To the present day the majority of physiologists—in this country at least—look upon the former of these systems as an unmeaning appendix to the latter, with which, however, they allow it to possess little or no sympathy; for though it be a common remark that the stomach sympathizes with the brain, the visceral system of nerves is by no means present to the minds of the physiologists in question as the connecting medium. With such crude conceptions of the connexion between these organs the wonder will diminish, that while the intense degree of neuropathy could not be mistaken, and was referred by them to one or other of the nervous systems, but never to both conjointly, the minor degree, though spoken of as a malady, should fail in fixing their opinions on either system in particular, still less in leading them to attribute it to a morbid sympathy between the two. The anormal visceral and cerebral signs being striking and continuous in hypochondriasm, a choice was made between the viscera and brain

as their source; being intermittent and less prominent in nervousness, it was deemed impossible that they could be referred to the same condition of either of those organs.

In the following treatise, I have essayed to fix the pathology of neuropathy as it appears in the forms of simple nervousness and hypochondriasm, and thus to attach some meaning to these much used terms. Phenomena which cannot otherwise be accounted for are commonly attributed to nervousness;—but to what is nervousness attributable? The world may rest on Atlas, but on what does Atlas rest?

In the endeavour to render clear the connexion between these states, I have availed myself of the recent light that has been thrown on the physiology of the ganglionic nervous system, and the leading office it has been shewn to perform in the economy. Passing over the hypotheses of Willis, Vieussens, Lancisi, Winslow, Johnston, Haase, Scarpa, Bichât, Reil, Richerand, Wilson Phillip, and Wutzer; I have founded my remarks on the theories proposed by Weber, Broussais, Copland, Lobstein, and Fletcher,—authors (the three last especially) whose views appear to me the most sound of those hitherto advanced. Dr. Copland was the first English writer who entered upon the subject with philosophical precision; his writings in the "Medical Repository" for 1822, and in the Appendix to the translation of Richerand's Physiology, contain the fullest and best

account in the language of the office of this extensive and important nervous system. Not less valuable, however, are the facts and arguments advanced by my late learned and lamented friend, Dr. John Fletcher, in his "Rudiments of Physiology;" a work which, if placed in the hands of physiological students previous to their entering on the consideration of the particular functions, would preclude many of the crudities that abound in their opinions concerning the latter. Lobstein's work, also, "De Nervo Sympathetico," is a splendid instance of laborious research and accurate deduction. From the physiological ideas, therefore, of these writers, I have reasoned and applied them to the explanation of the pathological states treated of.

The indications of treatment have been founded on the phenomena of the disease, as well as on the doctrine of their essential nature. I have rather attached myself to the general means of acting on the latter, than to the particularization of the numerous remedies that have been administered for the relief of the individual symptoms; the principles on which *classes* of remedies are applied are rather dwelt upon than the particular remedies themselves, the proposed end being rather to elucidate than to expatiate.

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37, Sackville-street, Piccadilly,
May 1, 1837.

ERRATA.

In note to page 83, *for* Copland (1827) *read* (1822-27.)

In page 178, *for* ισοθεον *read* ισοθεος: and instead of "the physician" *read* "the *god-like* physician."

AN EXPOSITION,

&c. &c.

SYMPTOMS OF NEUROPATHY.

The impression made by external and internal irritating agents on the body, is, in the first instance, upon the irritability and sensibility. If, further, the agent be of sufficient power, or of apt quality, the circulation through the capillaries, and subsequently through the heart, becomes affected; and the deposits, solid or fluid, from the circulating fluid also, become changed. Both conditions, therefore, imply a primary morbid impression on the nervous system, as the representative of the irritability and sensibility; but, in the former, the irritating causes so act as to develop phenomena referable to a disordered deposit in the nervous tissue alone, without implicating other structures. Still, even in this case, there *is* morbid deposit, either in kind or quality, and the circulation in the nervous tissue generates symptoms which, collectively, have the name of "nervous irritation," or

simply "irritation," in contradistinction to that state in which the deposits in other tissues are involved, and to which the terms "inflammation" (acute, subacute, or chronic,) and "disorganization" are applied. As, however, the nervous tissue is everywhere present, intimately mixed up with the other textures of the body, it is possible, and by no means unfrequent, to behold phenomena that indicate a co-existence of nervous irritation and inflammatory action; the latter, in such cases, being, for the most part, of a chronic or subacute character. The symptoms which denote this action are those of disordered secretion on some secerning surface: the symptoms which denote the nervous irritation are those of disordered sensation and motion.

All nervous disorders commence in simple lesions of sensation and motion; and, if their progress be not arrested, end in the disorganization of the principal organs of the economy. At this point of purely nervous irritation, all the phenomena that constitute the neuropathic or nervous condition, including those of hypochondriasm and hysteria, are placed. Nor is this proposition affected by the coincidence of inflammatory action before alluded to, as I hope satisfactorily to shew in the course of this treatise. The latter may qualify the treatment, and be thereby removed; but the nervous symptoms will, in very many instances, still persist.

It would be exceedingly difficult to meet with

an individual instance into which all the nervous phenomena appertaining to the neuropathic condition should be crowded. I shall therefore, in the first place, give an abstract account of them ; and, subsequently, relate several cases illustrative of the predominance of more or fewer, according to the causes that produced them, or the temperament in which they were developed.

These phenomena are reducible to the four following heads :—

1. *Sensations.*—These are of different kinds, according as they are perceived in some irritated viscus, in the muscles and organs of sense which sympathize with the irritated viscus, or as they are altogether anomalous, and, indeed, referable to actual hallucinations.

In the *irritated viscus* the sensations vary with the viscus, the degree of irritation, and the susceptibility of the patient. In the *abdomen* the stomach is either affected with nausea and vomiting, or, on the other hand, with insatiable hunger, which, again, disappears when food is presented. In the onset, and for some time after, the appetite may remain perfectly good. Strange feelings of all kinds are referred to that organ, and to the intestines in general. At one time there is a sense of sinking, or dragging, at the pit of the stomach ; at another, of burning ; at another, of itching, of crawling, of tearing, of palpitation, and so forth. More or less

of cardialgia and cramp of the stomach are present, especially in females. But these pains of the stomach do not give the same sensation to all patients: some have a sense of constriction, as if the organ were compressed between two surfaces; others feel excessively distended, as if rupture of the stomach would occur; icy coldness often constitutes the painful sensation, and occasionally the pain is as of a sword or stiletto driven through the pit of the stomach to the spine. To these varied sensations temporary relief is sometimes brought by food, and frequently by that which is most indigestible. Hoffman says they often alternate with nervous headache, and I think I have seen this in not a few instances. The same sensations are felt in the liver, the spleen, and the kidneys. The bowels are torn or pinched, or twisted or compressed: sometimes explosions are imagined in them; again, they are ruptured; animals of all kinds move about them, and occasionally the patient will declare that he has none at all left. In the *chest*, the heart palpitates and threatens suffocation; all manner of extraordinary sensations are experienced about it; it ascends or descends, passes to the right side of the chest, or into the throat; its pulsations often intermit, and induce actual fainting. At times there is a sense of sinking in the region of the heart, conjoined with one of impending death; the patient sometimes declares it is too large for his chest, and again that

it is too small to circulate the blood. Actual pain is frequently felt in the organ, and prevents the recumbent posture on the left side; the lungs, too, are constricted and oppressed, or, according to some patients, dried up; a dry, hard cough frequently attends.

In the *muscles and organs of sense* that sympathize more immediately with the irritated viscus, there are sensations of ever-varying kind; darting and pricking pains of the ribs, spasmodic constrictions of the chest; pains that are always changing situation, and resembling gout, rheumatism, pleurisy, or syphilis; flying heats, now in the limbs, now in the trunk,—now deep-seated, again superficial; shivering sensations, cold fluid flowing or darting along a limb or the trunk; creeping sensations; numbness, soreness, and so forth. Many complain of shifting headache; or of heaviness or constriction of the skull; or a feeling as if the head were forcibly drawn backwards. There is also, very generally, a heat or itching of the eyelids, a sense of cold when closing them, while the ball of the eye is hot. The nostrils also itch, or at least have a sensation that induces to the frequent application of the handkerchief, though the passage is drier than usual.

The *anomalous sensations*, or actual hallucinations, can only be attributed to a morbid irritation of the brain, engendered by its sympathy with the pri-

marily diseased organ. To this is owing the morbid imagination, which causes the neuropathic sufferer to speak of blood rushing from one point to another; of violent febrile attacks, no signs of which are visible; of thick, stringy matters, stopping up the respiratory passages and the nostrils; of gusts of air, cold or hot, rising from the lower part of the belly to the chest, the head, or the limbs; even of noises, which he affirms to have heard in the latter: this it is that makes him imagine whistling sounds in the ear; that induces him to maintain that he digests nothing, although he is tolerably well nourished by what he takes; that he has painful sensations of the muscles and joints; that he is threatened at every moment with an apoplectic stroke; that he cannot void his urine, although every one else can see it flow freely; that his bowels are never relieved, while to others it is evident that they are; that makes him have the idea of strangulation and suffocation, his respiration being, meanwhile, to all appearance free. We hear him speak, too, of fearful pains in some part or other of the body, whose functions are far from being deranged to any corresponding degree with the supposed intensity of these pains; of excessive debility and emaciation, with great change of countenance, though the contrary is evidently the case. We hear such persons announce their conviction, on the strength of some trifling eruptions of the

skin, that all the fluids of the body are corrupted, putrid; that they feel them to be so as they proceed along the bloodvessels, &c., &c. Some fancy their arms to be twisted, though they are at perfect rest; others that they are seized by the hair and thrown down; that the top of the skull is open. Some also imagine a voice that calls them, and turn round to answer the speaker. Indeed the sense of hearing is exquisitely acute; and some have even fancied that they heard by other parts of the body than the ear, especially by the pit of the stomach.* The sight is also morbidly changed; some fancy they see individuals with whom they actually converse; others have clouds that cross the sight, or dark spots; and, as in the sense of hearing, the vision is sometimes referred to distant parts of the body. Such was the case of a woman

* This morbid exaltation of sensation is thus described by a lady to Pinel, who quotes the words in his *Nosographie Philosophique*, vol. 3:—"Previous to rising in the morning and going to sleep at night, when the arteries of my brain are beating somewhat violently, I hear a voice towards the back and upper part of my head; its sounds are perfectly articulate; its phrases construeted so as to be very rarely obscure. If I get up, I no longer hear the voice. However singular this may appear, I protest that neither my ideas, nor any of my thinking faculties, take any part in it knowingly .... The starting point of all my uncomfortable feelings is in my belly; and so sensible is it, that pain, pleasure, grief—in short, every kind of moral affection, begin and end there. An unkind look instantly and painfully affects it, so as to disorder the entire system. *I think by the belly*, if I may so express myself."

of Lyons, mentioned by Louyer Villermay, who declared she saw by the epigastrium. The sense of touch is not unfrequently exaggerated to the degree of soreness; the mere approach of a hand, particularly to the pit of the stomach, or over the region of the heart, causing excessive fear, and even palpitation in those points. In not a few may be remarked an astonishing sensibility of the hair, or rather, of the scalp, which they compare to one large bruise. Many neuropathics are tormented with a variety of smells and tastes; some having a taste of blood in their mouth, whence they deduce an approaching hemorrhage; others a sweet taste; others a metallic taste, especially of copper. Their existence is thus a series of torments, and all their sensations are unnatural and painful. They lose all courage, and dare not undertake anything of importance, even though to their evident advantage. They go from one physician to another, and are almost always relieved by the first remedies that are prescribed, but soon cease to have faith in them, and seek out another adviser. All these hallucinations, however, are, for the most part, transitory; for were they continuous, there would be good ground for suspecting or anticipating a total annihilation of reason.

2. *Movements*, of varied kinds, in the external muscles of the body. These partake more or less of the convulsive character, and are the forcible

consequence of the sensations that are experienced in the viscera, and of the movements that take place therein. They may be divided, for the sake of perspicuity, into two series.

The first are, the inordinate movements of the respiratory muscles, or those muscles that are partly under the dominion, and partly independent, of the will—in other words, are in part distributed to, and sway, the viscera, and in part to the external muscles. Under this head come the difficulty and suspension of the respiration during the painful constrictions of the heart or the stomach; the convulsive movements that attend the dry nervous cough; those that accompany the nervous vomiting and nausea; the distentions of the stomach and bowels, their painful spasmodic contractions, and the hiccough, and sudden eructations, that are so frequently found in the neuropathic state in both sexes. To these may be added, in the female sex, the frequent sighing, yawning, and sobbing, and the explosions of laughter that obtain in hysterical women—phenomena which owe their origin to unusual internal sensations. Such individuals also exhibit movements of gyration, of twisting, elevation and sinking of the belly, that are performed by the abnormal action of the muscles containing the abdominal viscera; in fact, the whole belly is sometimes in a continued state of agitation in hysterical females, the external responding to the irritative movements of the internal muscles of the

intestines ; this agitation is also exceedingly common in some kinds of chronic inflammation of the small intestines.

The second series of movements are effected by the muscles which, in the healthy condition, are under the influence of the will. In the first instance they adapt themselves, instinctively as it were, to the attitudes which the internal sensations of the viscera, by the medium of the respiratory nerves, demand. Thus some neuropathics bend forwards in sitting and walking, some laterally, and generally to the right side ; others sit constantly with their hand over the belly, as if to protect it from all collision. There is sometimes an incessant desire to change the place where they sit, to move the limbs, to beat or rub some part of the body—in short, there is an eternal *fidget;* the attempt at quietude is in vain ; the will is overpowered by the organic irritation within. This annihilation of volition is sometimes so complete as to allow of convulsive movements of the limbs, twitchings in the spine and ribs, cramps in various parts, and distortions of the countenance. The starting and shuddering from slight causes, or no external cause whatever, come under the same head. The countenance of nervous persons is sometimes anxious and melancholy: the complexion is in some sallow, owing, probably, to the disorder of the biliary secretion, and the entire digestive canal. Not unfrequently, however, the face is no index of the actual disorder of the

system, having the appearance of perfect health in the midst of inquietude, and even of acute suffering. Hence it is that the neuropathic patient so often gets ridicule in lieu of commiseration for his manifold complaints. Trembling of the limbs, especially the lower, is very common in the nervous state of the body.

3. *Disorders of the internal or organic functions.* The secretion of saliva, mucus, bile, sebaceous matter, and semen, are deranged. Air, in great quantities, is rapidly secreted in the intestines, and as rapidly absorbed; and partial derangements of the circulation, causing congestions and unequal distribution of animal heat, take place.

If minute attention be paid, it will very frequently be found that, previously to the establishment of neuropathic symptoms, more or less of these disorders of the organic functions exist; some unusual dryness or foulness of the tongue, a degree of thirst, diminished appetite, or constipated bowels. However this may be, the nervous condition once fixed, the patient then refers to the state of his organs. He finds his tongue foul, with intervals of red, erected papillæ, and in the morning, while fasting, dry or bitter; it may also be clean and moist, but is then red, or split in various directions. Sometimes he rises with a sort of salivation, or flow of tenacious mucosites of excessive acidity; at others, the saliva is thin and acrid. The

breath of such persons is variable also; in some it is pure, and not changed, except in the morning; in others it is sour or hot, and occasionally, when a bad digestion of a meal is going on, its fetor is insupportable. This, however, is not often the case. The matter vomited from the stomach is rarely alimentary; it for the most part consists of frothy mucus—at times, acid. When there is deficiency of bile, the excretions are greyish, like mud; or when it is in excess and diseased, (for both conditions obtain,) the excrement is black and exceedingly fetid. Gases of varied kinds are suddenly secreted in the stomach and intestines, and produce rumbling, harassing distention, and laborious breathing. Indeed, so distressing is this symptom, that the majority of neuropathics attribute all their ailments to the presence of enormous volumes of air in the digestive passages. We constantly hear them exclaiming, that "could they get rid of the wind they should be well." It is, however, pretty freely expelled upwards and downwards, or the animal chemistry again comes into rapid play, and in a few minutes, without any expulsion whatever, the air disappears. Air is also sometimes secreted in the cellular tissue, between the mucous and serous membranes of the intestines, giving rise to the doughy feel which the belly of neuropathic patients so frequently has. In the womb, also, the same collection at times occurs. Constipation is more com-

mon in such than diarrhœa ; they not unfrequently alternate, the diarrhœa being accompanied with colics, and, if moderate, diminishing in a small degree, if violent, increasing, all the nervous symptoms. Instances are related of the bowels remaining torpid in hypochondriasm for three months. (See *Forestus*, lib. 1, obs. 35.) The urine is mostly unchanged, though in some individuals it is unusually copious and limpid; indeed, Sydenham, Cheyne, and Hoffman, mention a sudden and copious flow of pale urine among the pathognomonic signs of neuropathy. Occasionally it is suppressed or diabetic ; but these occurrences can scarcely be called symptoms of the disease. Generally speaking, the condition in question diminishes the venereal appetite and the secretion of semen; but in some men, having a certain quantity of brain-matter at the back of the head, both continue unabated. Nocturnal emissions of semen are, however, not unfrequent. Not a few are haunted by the fear of approaching or present impotence ; and, on two or three occasions, I have seen a strong conviction on the patient's mind of extensive disease of the prostate gland and neck of the bladder. What is called "spasmodic stricture," is sometimes found in the neuropathic condition, and is aggravated or relieved with the increase or diminution of the other symptoms. Temporary congestions of blood occurring, we find transitory sensations of heat in various parts of the

body, flushing of the face, burning of the throat, of the eyeballs, of the pit of the stomach, &c. Louyer Villermay (*Traité des Maladies Nerveuses*, vol. 1, p. 343) mentions the case of a gentleman who experienced a sensation of debility and numbness in the whole right side; but when he laid the weight of his body on the left leg and arm the sensation passed away, the latter becoming almost devoid of sensibility; when he regained his feet the original feeling returned. This person compared the above change to the pouring of a fluid from one vessel into another; and he thought that a liquid did really pass from the right to the left side. Was not this an instance of temporary congestion of the two lobes of the brain successively? The sebaceous secretion of neuropathics is, for the most part, increased, giving, to the face more especially, a greasy appearance. The inflammation of the orifices, and consequent stoppage of the sebaceous follicles of the face, often produces an eruption of pimples on the forehead and sides of the nose. This I have found to be particularly the case when the cause of the neuropathy is attributable to violent mental shocks, to masturbation, and to the drinking of cold water when the body is heated. I am acquainted with several instances where men with clear skin have, on being plunged by misfortune from comfortable circumstances into comparative indigence, and, becoming neuropathic, all at once

been disfigured by an eruption of this kind, which uncharitable persons have attributed to the free use of the opiate too often employed on such occasions, —brandy. It is, however, only a more tangible and permanent form of the sanguineous congestions previously alluded to.

4. *Mental Disorders.*—These numerous lesions, which are the result of a vicious innervation, caused by the different concentrations of visceral irritation, cannot fail to make a deep impression on the intellect: for the same variety of organization that makes an individual subject to internal nervous affections deprives him of the power of bearing them with equanimity. Thus it is that neuropathics give way to settled grief, to suspicion, to impatience, or to fiery and almost involuntary irascibility. Many of them, however, seem, even in disease, incapable of anything but gentleness and kindness; whilst others display a totally different temper at different times of the day,—the neuropathic who receives you in the morning with affability, offending you by his *brusquerie* in the evening. Groaning under the horrors of their situation, for which they cannot account, and the termination of which they cannot accurately guess, sinister presentiments take possession of them. In prospective all is lowering: they have a much more honest fear of the continuance of their condition than of the chimerical idea of an approach-

ing death: and yet, notwithstanding, the attendant *tædium vitæ* happily seldom leads them to

—— "seek the self-accorded grave
Of ancient fool and modern knave."

Suicide is the act of the melancholic, not of the neuropathic. Like the wood-cutter of the fable, the latter call for death, but make no step to meet it. Their confidence is uncertain and versatile: they consult with an equal degree of faith the man of genius and the gossiping old woman, the learned physician and the druggist. In all nervous persons there is a wonderful propensity to talk about their ailments to every acquaintance they have or make: nor can we be surprised that individuals in this morbid condition, with this diseased feeling of self-preservation, should prove a rich harvest to the Longs and Morisons of the day, or that the most frightful liniments and drastic purgatives should have charms for them which a milder and rational medication fails to impress them withal. The causality of neuropathics is not frequently deranged; but the exercise of it is rendered almost impossible by the capricious character of the mind rendering tedious any prolonged attention to a subject. Indeed, in the majority of instances, all mental contentions are more or less painful, from the fugacious jumbling together of the ideas: whilst some complain of a sort of vacuum in the head, a feeling of vagueness resem-

bling "reverie," or "brown study." Some there are, though, to whom studious habits, a peculiar turn of mind, or a fine development of the intellectual faculties, render moderate mental application not only necessary, but beneficial. The memory is at times uncertain or enfeebled, but is rarely altered to any great extent. But of all the mental faculties, the imagination of neuropathics is ever the most deeply compromised, and that always sympathetically. Not that there lacks any real existence of the evils of which they complain: *neuropathics decidedly always labour under some disease:* their ailments are actual, but they exaggerate the effects and the dangers of them, adding to a *bonâ fide* morbid symptom some chimerical fear. Thus they assuredly are troubled with eructations, vomiting, diarrhœa or constipation, aeriform distention of the belly, palpitation of the heart, &c., which oblige us to give credit to the reality of the powerful, though exaggerated, sensations of which they complain. Meantime, excessive mobility of ideas leads them from the imagination of one disease to that of another, and not unfrequently they conceive themselves to be labouring under several at once. Have they lost a friend in pulmonary consumption, straightway the fear of that disease is uppermost: talk to them of another malady,—dropsy, for instance,—the lungs are forgotten, and they ask when tapping will be necessary. But

the diseases the fear of which more particularly haunts them are, mental alienation, fainting fits, and syphilis. I am acquainted with two cases in which conviction of the existence of the latter became so fixed as to produce the most distressing consequences to the domestic peace of the families to which the females—for they were wives—belonged. The fear of syncope is connected with the dreadful sensation of sinking at the pit of the stomach, previously mentioned: and they anticipate the impossibility of recovery if it really take place.

The exaltation of the faculty in question gives to the recitals of neuropathics a most vehement mode of expression: indeed, theirs is a *modus dicendi* altogether peculiar to themselves: "the skull opens and shuts," "the brain quivers," "the blood is effervescing or boiling in the veins," "the nerves are red-hot wires;" such is the hyperbolical character they assign to the simplest morbid sensations. Their attention to the state of their functions is minute to a degree; the smallest details are matters of serious importance in their eyes. One scrupulously examines what he has expectorated, hoping to find the cause of his ailments there; another finds a change of cloud or colour of his urine every day. I have read of an individual who consecrated a room to the reception of innumerable pots-de-chambre, each one containing

the results of a day's mincturition,—this urinary museum being a source of profound meditation to him from time to time. Some weigh their food, measure their beverage, and pester both physician and apothecary with tedious inquiries about the ingredients of their medicines: and they often rejoice in being the subjects of some new remedy or novel mode of medication. Nothing delights them more than the reception of information touching the human organization, its functions, derangements, and the action of external stimuli upon it: and this species of curiosity renders some neuropathics the most liberal patrons of medical writers and publishers. The characteristic temper of neuropathic sufferers undergoes various modifications, being sometimes confirmed and strengthened, at others enfeebled or changed; the vivacious losing the major part of their cheerfulness, which again, in other instances, becomes boisterous.

The mental disturbance augmenting, the digestion of food is effected with gradually increasing slowness and difficulty. Any strong irritation of some part in the neighbourhood of the digestive organs may, however, bring temporary relief to the functions of the latter: the pain of a blister on the chest or arm often allows a nervous individual to digest with considerable facility for the time. Again, the phenomena that are dependent

on the general sensibility and the mental faculties may so far predominate as to mask or suspend the dyspeptic symptoms: indeed, such is frequently the case when the nervous condition is the result of mental shocks, the appetite and digestion continuing for a period to be unchanged, or even unusually active.

If nutrition is imperfectly performed, the patient soon becomes visibly emaciated: he loses his colour and the firmness of his flesh. In females, leucorrhea supervenes, the menses are deranged or diminished, and sometimes altogether suppressed before the natural period: the skin becomes sallow and puffy, and the chlorotic is added to the neuropathic condition. Chronic inflammations of the liver and spleen also frequently attend the advanced period of the disease; and the consequent tenderness of the hypochondriac regions, accompanying more or fewer of the hallucinations and moral disorders above recited, originates or procures for the *ensemble* of symptoms the denomination of "hypochondriasm," or "the spleen." I need scarcely add, that the neuropathic state may exist and persist without any such condition of the liver and spleen; and that, therefore, these terms are incorrect. This affection of the viscera in question is the result—and by no means an invariable one—of a previous derangement of other portions of the abdominal contents, as I shall

shew in speaking of the essential nature of neuropathy.

Meantime, these tangible evidences of morbid nutrition, these chronic congestions, being superadded to the signs of diseased innervation, render the chances of ultimate amelioration or recovery more and more distant. Occurring at any period, the augury from them must be unfavourable: but, on the other hand, when the neuropathic state has continued for a long time without any, or only a slight, development of these and similar substantial maladies, we are authorized to draw a favourable conclusion from the fact. But the circumstances on which we can ground a prognostication of the probable termination are so numerous and complicated,—so dependent on the intensity of the disease, which affects innumerable shades,—so mixed up with age, sex, temperament, climate, mode of life, social relations, and moral propensities and affections, as well as intellectual predominances, that it would require a work of much greater extent than I purpose this should be for the full enunciation or detailed arrangement of them all. In the preceding recital, I have made a general tableau of the symptoms that are observable, and are liable to be exhibited, in the course of the nervous condition when it is left unchecked, or when the subjects of it continue for a long space of time under the influence of the most unfavourable causes. But if they are by times withdrawn

from such influence, or are rationally treated, the malady tends rather to diminish than increase in degree, and sometimes rapidly disappears. It by no means follows that the entire cohort of abdominal, thoracic, motor, and mental disturbances, bear down, in dread array, upon the individual sufferer; in fact, it would be vain to search for such an instance in the records of medicine. The prominent symptoms may be, in great measure, confined to the abdominal viscera; to these may be added those of the thoracic: and cases of this kind are the most numerous. Next to these come the instances in which disorder of the voluntary muscles comes to join that of the involuntary and respiratory. The neuropathic condition with predominance of moral lesion is comparatively rare. The cases of neuropathy are as various as the individuals affected. True, they all have common characters, by which an acute observer may detect the pathognomonic symptoms, amid the infinite shades and innumerable anomalies they present; but no one case entirely resembles another. Far from being identical, they all have some marked differences, by which superficial men, who are generally more intent on accessory signs than the first offsetting of disease, are led away, and thrown into an unenviable state of doubt and difficulty.*

* Thus I have known a medical man gravely assert the existence of, and perseveringly treat, an inflammation of the kidneys, in a neuropathic patient, in whom the nervous pains of

The progress of neuropathy is singularly various: it varies with the individual; and in the same one, at different periods of the year, the month, the day, or the hour. In women it is frequently exasperated at each time of menstruation, and particularly at the critical period of its cessation. Sometimes its duration is ephemeral; at others it remains at one degree of intensity for a long time, or again exhibits the extreme of inequality. In some instances it has exacerbations, or paroxysms, the degree and duration of which are also variable. Sometimes it insensibly wanes, or (but this is by no means usual) suddenly vanishes; and not unfrequently, when the disorder is on the point of disappearing, some new vexation, some fit of deep thought, some infraction of the rules of diet or regimen, or the villany of a quack, renew all the disastrous symptoms. A sudden attack of acute inflammation, or the exasperation of an internal phlegmasia to the point of originating a smart fever, often dissipates the neuropathic symptoms. Many curious cases are related by Hoffman and Van Swieten of nervous individuals who were permanently cured by small-pox, critical evacuations

the loins predominated, and whose urine chanced to be cloudy. I have, more than once, seen colchicum given for "rheumatism of the chest," when the pains of the ribs were only a predominant sympathetic phenomenon occurring in a nervous individual whose digestion was of the worst kind.

of blood and sweat, collections of matter, cutaneous eruptions, &c. The majority of cases recover when they have not been improperly treated. Some patients get tired of thinking of their health,—for man, sooner or later, tires of everything,—and then spontaneously rid themselves of their anxieties, or are ridiculed or reasoned out of them. But to effect this latter end, the individual should be blessed with a considerable share of reasoning power, and should, moreover, possess cerebral organs corresponding to those of the physician who treats him; otherwise, it were as profitable to preach theology to fishes or frogs. Advancing age may also blunt or change the character of their sensibility, and turn their attention to another train of ideas; the "good old-gentlemanly vice" of avarice is, on occasions, one of the most successful curatives of the nervous tumult, the anxiety for the person being swallowed up in that for the pocket. One source of comfort the neuropathic may always find in the extreme rarity of a termination of his ills in the mightier one of insanity. Happily, this most humiliating denouement of all his fears and inquietudes is that concerning which he has the smallest reason for entertaining either. On the other hand, as I have before mentioned, not a few cases of neuropathy end in immovable congestions of the abdominal viscera, inducing scirrhous, cancerous, or lardaceous depositions in some portion

of the digestive canal or its appendages; or in an organic affection of the heart, enlargement, ossification, or both. By such ultimate disorders alone can the nervous sufferer perish. In the purely neuropathic state he may "drag heavy day on day" through a long series of years, and eventually lay a head silvered with age in a grave where the paradise of rest he could not obtain in life will be found.

It has been already stated, that the numerous symptoms by which the neuropathic condition is liable to be accompanied, and which have been detailed in the preceding section, constitute, by their infinite distributions in different individuals, shades of nervousness, in some of which the manifestations may be chiefly abdominal—in others, thoracic —in others, mental. I say chiefly, because it would be impossible, for instance, to experience the dragging sensation at the pit of the stomach without some concomitant fear or anxiety, or other mental inquietude; it would be impossible to have constriction of the chest, or violent palpitation of the heart, without more or less of the same moral uneasiness; and most assuredly it would be impossible to be the victim of the hallucinations and horrid thoughts which haunt the neuropathic, without the coincidence of more or fewer of the visceral disturbances alluded to. Cases, however, are incessantly occurring

in which the patient complains only of some inordinate sensation of the stomach, with low or variable spirits; in such, I should say, the abdominal symptoms predominate. Again, together with pain or sinking in the stomach, complaint is made of darting pains between the ribs and other parts of the body, impeded breathing, and twitchings and tremors of the limbs ; in this instance, also, more or less depression of mind, and anxiety, may readily be supposed, (for men have not suffocation or convulsion in contempt ;) but still, as the mental phenomena only recur with the visceral symptoms, we have a right to denominate the latter predominant. But when these phenomena of the viscera have retained their predominance for a certain time, those of the mind come into even, and, at length, unequal play; the patient runs riot in his hallucinations, the disorders of the viscera are magnified into incurable or unheard-of maladies, and the case may then be said to be one with predominance of mental symptoms. Still it cannot be concealed that this line of demarcation is in some degree arbitrary. For though it be true, according to nature, that the starting point of the symptoms is invariably in the abdomen, and that all the other signs of the disease radiate from that point, and are in some measure therefore subservient to it, yet the same nature has drawn no line as to time or degree—the time when the disorder can be affirmed as altogether visceral, or

altogether mental, and the degree in which the brain sways it over the viscera, and vice versâ. The difficulties of this question will, however, be entered upon, and, I trust, somewhat cleared away, in treating of the essential nature of neuropathy. Meantime, I purpose to give a few cases, classed according to the predominance of the several leading functions implicated in the nervous condition; reminding the reader, at the same time, of what has just been said of the arbitrary nature of that classification, and of the consequent necessity there will ever and anon be of presenting cases in which it will, to a certain extent, be infringed.

CASES OF NEUROPATHY WITH PREDOMINANCE OF VISCERAL AND MOTOR SYMPTOMS.

Case I.—A lady, twenty-two years of age, had a slight bilious attack, for which some medical man gave her two emetics and two strong purgatives. After this, a severe headache and pain, with tenderness of the stomach, came on. Though of strong habit of body, she was now almost unable to stand; the sinking at the pit of the stomach, tremblings of the limbs, giddiness, and constant tendency to faint, rendering the slightest exertion almost impossible. The smallest quantity of food aggravated the pain of the stomach; there was considerable flatulence; the appetite was small, the

tongue in tolerably good condition, and the taste approaching to natural. The pulse was small and weak. There was great depression of spirits, and constant tendency to weep. These were the symptoms in the month of March last. After pursuing a treatment which was chiefly dietetic during upwards of two months, the giddiness and propensity to fainting were the first to disappear, and the pain of stomach was less acute. Still there was great anxiety, and starting at sounds and sights. Without alteration of the medical means, but with further reduction of diet, the headache, notwithstanding, continued its periodical returns. Though the pain of stomach was gone, the appetite very good, the tongue and taste almost natural, the patient, however, complained of an accumulation of thick mucus at the back of the throat, and also of pricking pains in the lower edges of the ribs; numbness of the limbs was also experienced. The excitability of the mind was, however, much abated. By persisting in spare diet, and a slight infusion of hops, this patient is at present as nearly recovered as possible.

Case II.—I have very recently been in attendance on a woman who had for months led a miserable life in consequence of a distressing sinking sensation, not only in the stomach, but in the entire abdomen. This came on several times in the day, and was accompanied with a palpitation at the

pit of the stomach, a sort of undulation of the museles of the abdomen, paleness of the surface, partial loss of sight, and tremblings of the legs, that obliged her to sit or lay down immediately. Her tongue was elean and moist during the day, but redder than usual, and very dry, early in the morning; the appetite variable, or rather, she seemed to eat merely beeause the food was before her; the bowels somewhat costive; no siekness; the epigastrium rather sensitive than sore; yet, after the first pressure of the surface was got over, further and stronger pressure, especially if equable, for the time dispersed her nervous feelings. In the interim of these sinking fits, so to call them, the nervous signs were chiefly confined to startings at the slightest noise, and transitory giddiness; her mind was not at all in a hypochondriacal condition. The treatment I adopted was ehiefly of a negative charaeter, and has been, I have reason to think, faithfully pursued. She still eontinues, however, more or less liable to start; her sleep is dreamy, but her appetite is gradually becoming more fixed; her bowels are rather variable; but I question not that, by perseveranee in mild and regular diet, abstaining from purgatives, (of which, by the way, she had made very frequent use previous to my seeing her,) and avoiding variations of temperature, she will, in a few weeks, be freed from all her uncomfortable sensations,—although she is cursed with a

reprobate husband, to whose follies, indeed, her complaints are probably traceable.

Case III.—In the summer of the past year,(1836,) a young gentleman, of twenty-five years of age, applied to me on account of the following symptoms:—In the morning, exceedingly furred tongue; no feeling of refreshment after his night's sleep, but, on the contrary, lassitude, with intense headache over the forehead; dragging, and occasional tenderness, at the pit of the stomach, whither, he says, everything seems to be referred, whether of pleasant or unpleasant character; prickly sensations over the hypochondriac and epigastric regions; appetite moderate; bowels inclined to constipation; urine cloudy, and frequently passed with difficulty, and in a twisted stream, denoting a spasmodic state of the urethra; this symptom alternated with the diminution or aggravation of his other complaints. This patient is a gentleman of well cultivated and strongly reasoning mind, and evidences great thirst for information; yet he told me that, with unabated desire to read and improve himself, he could not muster resolution to commence a book. He would fall into gloomy fits of cogitation, during which, to use his own expression, "the same confused feeling is experienced in the stomach as in the head." Convinced that, as all his mental sensations were referred to the stomach, the starting point of his complaints was

there, he cheerfully submitted to the treatment I proposed, the more as it was pointed almost entirely to that organ. Moreover, though he frequently averred to me his belief that if his feelings were not soon relieved he should be driven to a state of madness, he had sufficient philosophy to struggle against the mental load under which he suffered—to go into society, though he loathed it; to take excursions of several days out of town, though he would have preferred the listlessness of home; and so forth. However, so long as his tongue presented a furred appearance, and the dragging at the stomach continued, no change in his mental sensations took place; but no sooner did he perceive a slight amendment in these particulars than his courage and resolution returned; he began to find the bright side of things, and is now a happy man.

This case required a persevering attention of nearly three months, during which time I prescribed little or no medicine; the treatment being principally dietetic and negative. Indeed, the conviction that such was the best was forced upon the patient in consequence of the following circumstance:—In one of his jaunts out of town for a week, he was induced by some one to try the effect of a strong purgative; he did so, and found himself lighter and better—for twenty-four hours; on the subsequent day he was worse than ever, and re-

turned home immediately. I have placed this among the instances of neuropathy with predominance of abdominal symptoms, because, though there was irresolution and listlessness of mind, there was no hallucination—no overwhelming *idée fixe* of ill health—no demon of Protean disease haunting the imagination; while, on the other hand, there was unceasing sensation in the stomach, and invariable reverberation of every feeling upon that organ. The relaxation of all the symptoms with the improvement of the tongue also indicates the original point of disease.

Case IV.—Miss H——, twenty years of age, had been, in great measure, educated in France, and subsequently returned to England, to reside with her parents at one of our fashionable watering-places. Of plethoric habit, and enjoying the best health and digestion, she nevertheless thought to improve the latter by an inordinate use of condiments, curry, capsicums, and similar irritants. Her stomach was thus kept in a constantly exalted state of vitality. A most unfounded slander came to be propagated concerning her by some shameless individual, whose station gave him opportunity of spreading it widely; and, in consequence of the shock given to her feelings, she fell into ill health. Her mother took her to a bathing-place on the coast, where she was submitted to the tonic and purgative plan, to an extent that might gratify the

most *active* practitioner. Nearly three months of this, however, and the aggravation of the disorder, induced her to seek other advice, and, at the request of a friend, she came to town to consult me. The neuropathic state in this lady consisted in the following symptoms :—

Insatiable appetite, yet incessant vomiting, which was excited by the slightest odour, the mention of medicine, or prolonged conversation ; sense of stricture at the back of the throat ; extreme tenderness of the pit of the stomach, so much so, that the mere approach of the hand to the point was dreaded ; palpitation in the same locality ; sensitiveness of the whole abdomen ; sensation of various movements in the bowels, as of crawling, jerking, and of compression ; twitching pains in the hypochondria ; noises in the ears ; clouds passing across the eyes ; soreness of the scalp to the touch ; fear of being left alone, although, previous to her illness, she would upon no account allow any one to sleep in the same chamber with her ; sleeplessness. During the whole night she was occupied with the idea that there was a corpse or a robber in the room where she lay, or with some such horrid fantasy. In the day she could apply herself to nothing for any length of time; everything annoyed and irritated her; she passed, with astonishing rapidity, from the praise to the vituperation of the same object. The tongue, in this case, was turgid, red,

and vibratory, not tremulous—in the morning, crisped; the bowels obstinately constipated; the urine irregular, both as to kind and quantity; the menses had been suppressed for three months, though at each period there appeared to have been a more than ordinary effort of nature to excrete them.

Many persons might be inclined to set the above down as a case of hysterical disease. In my opinion the symptoms were mainly attributable to a vasculo-nervous exaltation of the stomach; and the treatment, founded on that opinion, seems to bear it out. The gnawing hunger and vomiting were both allayed in the course of thirty-six hours by repeated doses of prussic acid: the epigastrium was then frequently fomented with flannels wrung out of boiling water, and the bowels kept in a state of relaxation by warm saline enemata; leeches were repeatedly applied to the pit of the stomach; and as the appetite was annihilated, I requested my patient to diet on water-ices and biscuit. By this means most of the illusions that haunted her were, in the course of ten days, removed; the stomach and whole abdomen bore strong pressure, and the tongue became less red and turgid. Now it was not until these symptoms of morbid innervation of the stomach were suppressed that hysterical symptoms appeared. My patient then began to have paroxysms of weeping and laughter, twistings of the trunk of the body, the *globus hystericus*

and rumbling of the bowels, which previously had been compact and doughy. These symptoms persisted, more or less, during some weeks, and will probably, now that the uterine system is established as a weak point, recur at each monthly period. Meantime, however, the disorder of the digestive organs, and its sympathetic influence, is so far reduced as only to render the patient more than ordinarily accessible to moral stimulants; and as the primary mental cause evaporates, and the slander ceases to be noticed, she will, I doubt not, be altogether emancipated from her present nervous condition.

Case V.—I have been in occasional attendance, for several months, on a gentleman whose neuropathy is mainly attributable to a sudden change from a very active life to one of comparatively sedentary character, the kind and quality of his food being meantime continued. His appetite is good, and, as he experiences no particular uneasiness after meals, I have had the greater difficulty in persuading him of the necessity of restricting his diet. All his symptoms, however, are aggravated by a full supper, or a dinner of mixed aliments. He experiences no dragging or sinking at the epigastrium, but there is a degree of sensibility on pressure, though this is blunted by the interposition of a quantity of fat, which usually accumulates at his age (forty-six years). The tongue is constantly clammy, has a

swelled appearance, and is arid. Occasionally there is a slight salivation for a few hours together. The eyelids are red and turgid, and the nostrils dry; the bowels inclined to constipation; the skin pertinaciously arid;—withal, there is that increase of the abdomen, with shrinking of the limbs, which denotes a generally morbid condition of the primary nutritive organs.

The immediate neuropathic symptoms consist in a total loss of physical energy; a constant failing of the limbs; tremblings upon the slightest occasion; frequent sighing; an increasing wish for *rest*, though he cannot define what that means; confusion in the head, though he reasons with sufficient accuracy; numbness of the scalp, which, he says, feels like leather to his own touch; frequent obfuscation of sight; excessive sensibility to sounds, which appear to enter by the bones of the skull; transitory flushes of heat in various parts of the body, especially the cheek-bones and ears; his sleep might be more appropriately called a stupor, for he rises from it unrefreshed, and with intense headache, which disperses after taking hot tea or coffee.

The neuropathy in this case is sufficiently well marked, as is also its connexion with disturbed digestive function. For the reason above assigned, I have been enabled to make very little alteration which can relieve this function. What has been

done, however, has partially ameliorated the condition of my patient. Still he has been afflicted for many months, and unless he allows some radical change to be made in his diet, the predominance of brain symptoms will become established, the management of the disorder more complex, and the recovery therefrom more uncertain. The disease may go on for years, and perhaps terminate in more or less of insanity.

Case VI.—A waiter at an hotel, whose meals as well as sleep are irregularly taken, has fallen into a nervous condition, consisting in frequent confusion of the head, tremblings of the limbs, and a sense of general prostration, which has deprived him of all energy, and induced a state of despondency that is the more harassing as his livelihood depends on his continued exertions. He tells me that everybody appears to speak harshly to him; his master's voice is more peremptory, and his look forbidding; his fellow-servants treat him unkindly, and address him as if he were "a black sheep." On these occasions, he says, "his bowels seem to fall down, and his knees bend under him." When called by any of the sojourners at the hotel, the same symptoms occur, and materially interfere with the performance of his duties. He has frequent palpitations of the heart, which is painful when he lies on the left side.

The tongue of this man is moist, and tolerably

clean; the papillæ are somewhat erected; his appetite is good, but he is often obliged to refrain from gratifying it at the period when it is best, and to eat when it has in great measure passed away; the whole abdomen is sensitive, but there is not any considerable pain on pressure; the bowels act freely; his sleep is dreamy. He has been in this state for more than three months, and I question whether any effectual relief can be afforded, unless he continues to have more regular periods for the functions of digestion and sleep.

Case VII.—A medical friend and intimate gives me the following account of himself:—"Five years ago I entered into partnership with a general practitioner, in a neighbourhood in which much money may be made, but none of that reputation which you know it is my ambition to reach can be obtained. My partner, too, is a man whose tastes and habits are directly the reverse of my own. These causes, added to the want of congenial society, have gradually induced a condition of my nervous system that renders me a miserable treader of the earth. I am haunted by all kinds of groundless fears, have become pusillanimous, and am deprived of the greater part of my mental energy. Despondency, not irritability, has got possession of me; still I have no confusion of reasoning power; I only lack volition to exert it for more than a short time, or on any but common-place subjects.

My digestion is wretched; and every thought and feeling tells upon my stomach, where there is constant sinking, pain on pressure, and palpitation—the latter, the result of irritation about the cœliac artery. If I dream (and I seldom sleep without doing so) it is of all manner of horrors, but most of them implicating my epigastrium; thus, if my dream is of fighting, I receive a blow or a shot through that region, or I am struggling to escape from some cord tied round it: often I dream of eating whole hecatombs of food, or drinking oceans of porter, or some other cold fluid. From such sleep I awake with gnawing at the stomach, a tongue that is dry enough to rattle against my teeth, and a moral depression that is almost suicidal. I place myself on my back, use gentle friction with the palm of the hand over the epigastrium, drink some cold water, and thereupon my mind becomes calm, and I sink into a more quiet sleep.

"Coincident with this neuropathic condition, there is a tendency to torpor of the bowels, which for some time I very imprudently endeavoured to obviate by the frequent use of purgatives: I am now convinced they were prejudicial, and exasperated the irritation of the alimentary canal, though for the time they produced relief. The tongue is exceedingly dry after sleep, and during the day is clammy, and more or less covered with white fur. I find many of my nervous symptoms vary

with the variable quantity of the latter. My appetite is generally good; but the gratification of it is almost invariably succeeded by an universal uneasiness, a necessity for frequent full-drawn inspirations, an increased sensibility about the epigastrium, and sometimes by tremors of the limbs. One of my most pressing and constant torments is icy-cold feet; half-a-dozen times a day I change my woollen socks, but all to no purpose: I attribute much of my abdominal symptoms to the persistence of this state of the feet. I must not neglect to mention that my stomach is most capricious in its dealings with different kinds of food. At one time I take a full supper of meat, tarts and other sweets, and rise the next morning with a cleaner and moister tongue, and pleasurable feelings; at another, the same species of debauch exasperates all my symptoms. The same caprice applies to a supper of rice-milk, arrowroot, or any other bland aliment, and, indeed, to taking no supper at all.

"Against these multiplied ailments I have essayed various plans of treatment; but the very condition I treat disables me from pursuing any plan perseveringly. Besides, 'it is the cause, it is the cause'—it is the locality, the circumstances by which I am environed, that must be removed ere I can hope for emancipation from their effects. This I trust shortly to obtain, and then I shall also hope to give you a better account of myself. Meantime

I send you this recital, as I think it includes most of those symptoms of which you purpose to treat under the name of the neuropathic condition."

My friend certainly appreciates my view of the last-named condition; and I feel convinced that many readers will detect in the preceding recital more or fewer of the symptoms which themselves may have felt or feel, and of which they could give no account, further than by saying they felt themselves "nervous." Yet it is evident that the phenomena complained of are all attachable with an anormal condition of the digestive organs. Upon this point, however, I shall not at present dwell, as it would be anticipating what I have to say on the rationale of the phenomena in question.

I have repeatedly met with instances of neuropathy induced by the frequent and indiscriminate use of lavender drops, sal volatile, and other antispasmodic stimulants, by young ladies hysterically inclined. The following case will serve as an illustration of this fact:—

Case VIII.—Miss B., a highly intelligent lady, and having a largely-developed brain, of sanguine temperament, and inclining to the scrofulous diathesis, was in the habit of taking, during several years, a mixture of lavender drops and tincture of cardamoms, a week previously and subsequently to the menstrual evacuation. At these periods she became highly hysterical, and found the mixture in

question suspend the distressing symptoms under which she laboured. As is the case, however, with all stimulants, it became eventually necessary to extend the dose as well as the period over which she had been accustomed to take it. The consequence was, that a true neuropathic condition became established, mixed up, at the menstrual periods, with hysterical signs. By degrees the latter were less developed, and the following nervous phenomena became permanently predominant:—

Frequent tremors of the limbs; universal shudderings, without appreciable cause; constant and excessive lassitude; starting at the slightest sound; intolerance of light; sensations of heat, and of creeping in all parts of the body; occasional numbness of one part or other; erection of the hair of the head on the smallest excitement from without; pains wandering about the limbs; darting pains in the ribs; aching along the lower jaw, a symptom of which she made great complaint; sudden and violent headache; a frequent sense as if the head were drawn backwards; occasional paralysis of one arm, and partially so of the respiratory muscles, as evidenced by an almost asthmatic respiration; her mind was variable, but utterly incapable of bearing the excitement of society; conversation, if only for a few minutes, with her most intimate friends, or even the members of her family, aggravated every

symptom, and would sometimes produce a tetanic rigidity of the spinal muscles, and render the aching of the jaw intolerable. On such occasions, also, an universal pallor and corpse-like coldness overspread the body; reading of a light work even caused the same effects. She generally laid awake the whole night, until towards six in the morning, when a sort of stupor (not to call that sleep which brought none of its refreshment) seized her, and continued for three or four hours. Her memory was much impaired, but her judgment and reasoning power, which was of the highest order, remained untouched; and she never permitted herself to *imagine* disease in herself which did not exist; on the contrary, I never remember to have met with a patient who seemed more convinced of the true nature of her ailments, or one more resolved to follow out the long and wearisome plan of treatment that was absolutely necessary to her recovery.

During the worst period of this case the digestive powers of the patient were annihilated. Animal food produced excessive pain of the stomach, and aggravation of all the symptoms of disordered sensation; vegetable food caused increased general uneasiness, though the pains of the body were not affected by it. The sensibility of the epigastrium and whole abdomen was excessive. By pressure on the former region I have often induced faintness, and a clammy coldness of the entire frame—

nay, I have passed my hand over that part, without touching it, and thereby induced a convulsive shudder. The contents of the abdomen, as well as their containing muscles, were in one continual action; the rumbling distention of the former calling into action the exquisite sensibility of the latter. The tongue, both in the detailed papillæ and in its general form, was red, and, as it were, in a state of erection; sometimes clean, sometimes otherwise, but invariably deficient in moisture; in the morning it was positively crisp. Occasional sinking of the pit of the stomach, alternating with a gnawing at the same region, was ever tempting her to take food. Sudden accumulations of air in the stomach and bowels, with as sudden absorption or condensation of the same, were striking symptoms; for the disengagement of it by the mouth was rare, and downwards still more unfrequent, the bowels being obstinately costive. The nostrils were always dry, and the mucous surface of the eyelids turgid with blood. The feet and hands were always of an icy coldness, which no clothing could remedy. The menstrual evacuation has flowed regularly without pain, and without any aggravation of the symptoms, during eleven months.

With these symptoms, in various degrees of intensity, my patient continued for upwards of twelve months; and nothing but the confidence she placed in my plan of treatment, and the consequent firm-

ness with which she resisted all attempts on the part of her friends to infringe upon it, could have reduced them to the trivial extent in which they at present exist. For the last seven months there has been (compared with the previous period) a rapid progression towards health. And though I have every reason to fear that a structural change of the nerves of the stomach, as well as alteration of the functional order of the brain, has been the result of such long-continued irritation of both, and that therefore the patient will always retain more or less of that excitability which, in its excess, constitutes the neuropathic state, (having withal a largely developed brain,) yet she is certainly at this time restored to a physical and moral quietude which, compared with her former anxieties and horrors, must be an elysium.

Case IX.—About six weeks ago I terminated a long attendance on a gentleman, aged forty years, a clerk in a large mercantile house. During four years neuropathy had been making gradual progress in his functions; the exciting cause of which was undoubtedly the confinement and close application he was subjected to in his avocation. The first effect of this cause was discovered in an impaired digestion, as shewn both in a diminution of appetite, and a difficulty in digesting what the latter allowed him to take. By degrees he began to experience wandering fears, for which he could

not account, and on subjects concerning which he had nothing to blame himself. He dreaded the inaccuracy of his reckonings at the office, dreaded the conversation of his employers, and returned to his business with a feeling of having neglected it the previous day. His limbs frequently failed him; and then sinking of the stomach, and a fear of instant death, accompanied. His sleep was disturbed by horrific dreams, and he arose with distressing depression of spirits, which continued more or less during the day. His sight was clouded several times in the day. After eighteen months of this harassing condition, morbid phenomena began to appear in the viscera and parietes of the chest—such as stitches and darting pains in the ribs, short dry cough, and occasional palpitations of the heart. Gradually the pain became fixed over the region of the heart; the palpitations of that organ increased in frequency and intensity, though it was not constant; and the loss of power over the limbs, the fear of those around him, the groundless sense of some shame, and the depression of spirits, were aggravated. I should mention, however, that all these phenomena were favourably affected, or otherwise, by the nature and quantity of the food he took.

The tongue of this patient bore a thick, tenacious mucus, separated by reddened papillæ; it was also tremulous. There was heat and some redness at the back of the throat. Pressure on the

epigastrium excited very little pain, but produced palpitation of the heart and faintness. After taking food, the stomach swelled, and was a source of general uneasiness. No extraordinary secretion of air took place in the alimentary canal, the abdomen, on the contrary, being doughy to the touch; and while there was no especial pain over its whole extent, the patient always expressed a dread when I was about to examine it with the hand, and shrank when I was doing so. His bowels, inclined to costiveness, were, however, tolerably regular. His urine was copious enough, but charged with a reddish sedimentous powder. He told me that his venereal appetite had considerably increased since the commencement of his ailments; he also had occasional nocturnal emissions. The breath was sour to the smell, and he complained of constant acidity of the mouth and spittle. His eyelids, when pressed together, gave a sensation of smarting coldness; they also itched considerably. The stethoscope applied over the region of the heart gave the bellows-sound; for though the organ might be quiet at the commencement of my visit, any such examination always brought on the nervous palpitation alluded to.

In this decidedly neuropathic case, as the cause was to be found in the occupation of the patient, medical skill could only detect that cause and palliate its effects. Accordingly, all that I attempted

to do was to remedy the constantly lapsing state of the digestive apparatus, and to persuade him to relinquish his office, and seek some more congenial avocation. Three months ago he procured the situation of a commercial traveller, and has lately returned from his first business tour a happier and a healthier man, after four years of suffering.

Case X.—It is now eighteen months since I was called to see a lady about twenty-six years of age, who had previously been under the care of a physician of great name and practice at the west end of town. He had been in the habit of seeing her every week or ten days during four months. At the onset, her complaints consisted merely of some diminution of appetite, and slight uneasiness after eating, to *remedy* which the gentleman in question had prescribed pills of cayenne pepper and colocynth, and ordered a highly stimulating diet, wine, and violent exercise. However, this stimulation and purgation, instead of colouring, blanched her cheek, and daily rendered her more unfit for the prescribed exercise; and when I first saw her she was circumstanced as follows:—

The mind was excitable, and the temper irritable. Starting occurred on the smallest sounds or lightest touch. There was constant anxiety and excessive mobility of the countenance. The sight was much impaired. Irregular breathing, sometimes short and convulsive; at others, so slow as to require

frequent sighing to relieve the chest; short, dry, and shrill cough; vehement palpitations of the heart; creeping over the skin in various parts; frequent flushings of the face, and fixed heat over some part of the scalp; prostration of strength, and tremors over the whole frame when an attempt was made to walk; pains in the limbs, especially in the lower extremities; pain of the muscles of the back of the head, which seemed to be drawn forcibly backwards; sleep unquiet, and only continued for short periods; gnawing and sensibility of the stomach on pressure; twitching pains about the intestines; some degree of distention of the abdomen; appetite capricious, but, when gratified, the pain of the stomach was increased, and flying neuralgic pains of the scalp immediately generated; frequent nausea; slight strangury.

Accompanying these neuropathic phenomena there was a glassy eye, turgid eyelids, clean fiery-red tongue, dryness of the fauces, costive bowels. The skin was dry, and, except when the patient was excited, above the natural temperature; yet there was a want of red-blood circulation on the surface, which was blanched, the flushings of the face making the temporary exception. The feet, however, were constantly cold. Emaciation had proceeded to some extent. The menstrual evacuation was regular as to time, but rather increased in quantity.

There can be no doubt that in this instance a simple secretorial disorder of the stomach was converted into neuropathy by imprudent irritation of the organ, by the stimulating medication and diet that had been prescribed and persevered in for four months. It can only be regretted that similar professional activity should be wasted on trivial cases of dyspepsia, when so many opportunities may be met for its exercise in the constant occurrence of acute disorders that immediately compromise life. Resolved that though this unfortunate lady had been drawn into a nervous condition by the heroic treatment of one doctor, she should not be dragged to her grave by that of another, I persevered for many months in doing next to nothing. Four leeches were applied to the pit of the stomach every week, a warm water enema administered every night, and perfect rest on the sofa or reclining chair enjoined. The only medicine she took was a small quantity of soda water two or three times in the day; and her sole food consisted of a wine-glass full of mutton-broth morning and afternoon, with a piece of biscuit. Strange as it may appear, on this modicum of physic and food my patient gained colour and flesh; and, more than that, recovered much of the healthy tone of her mind. The startings, however, still continue in diminished degree, and will probably persist for a long time to come; for, unfortunately, the nervous condition is more

readily acquired than got rid of, be the treatment what it may, or however great the patient's philosophy.

These cases will suffice to illustrate the species and degree of neuropathy, which corresponds with a predominance of symptoms, having more particular reference to the viscera of the abdomen, those of the chest, and the seats of sympathetic and voluntary motion. As might be expected, nervousness of this degree is much more frequently met with than that in which the mind is extensively perverted, and where, while the disordered condition of the digestive and thoracic viscera can by no means be passed over in the treatment, the attention of the physician is imperatively called to the moral management of his patient, and his remedial means employed on the brain as well as the viscera in question. In the latter condition, as will be seen, it is the mind that is ever reverting to the condition of the other functions of the body, solicited, however, by those functions. In the condition which has been described, the mind is only kept in such a state by the morbid influence of the functions, that, upon the impression of slight external causes, phenomena of excitement are produced in it, which, however, are transitory, and therefore evidences that a fixedly permanent reaction of the brain has not as yet been established.

That the minor degree of neuropathic disease may and does pass into the more intense, is as certain as the spreading of disorder in any other tissue of the body than the nervous; and it is equally certain in this as in every other morbid state, that the less extensive and intense degree is more manageable, and the chances of success nearer and more sure, than in the more extended and fixed. Thus the division I have made bears on the question of the prognosis as well as the treatment of neuropathic cases—the two great practical problems which the physician is called upon (and in such cases called upon most anxiously) by his patient to solve.

Of the degree of neuropathy as above exemplified, a symptomatical resumé may thus be made:—Indefinable uneasiness; despondency or irritability of mind; diminution of physical strength; yielding and tremblings of the limbs; starting at noises and sights; giddiness, and tendency to faint; sense of sinking or dragging at the epigastrium; sensitiveness, or pain of the abdomen; pains, generally of a transitory nature, in various parts of the body; partial and occasional obfuscation of sight; numbness, or, on the other hand, preternatural sensitiveness of some point; partial sensations of heat, as in flushing of the face or burning of the eyeballs; creeping sensations; itching sensations, particularly of the eyelids, nose, or scalp;

shuddering, with or without external causes ; involuntary twitchings of the limbs and face; palpitation of the heart, and at the epigastrium; sighing ; hard cough ; sense of dread or shame without definable cause ; tendency to incessant motion and change of place ; sleeplessness, or broken, dreamy, unrefreshing sleep; appetite capricious, sometimes, however, unchanged and steady ; nausea, or vomiting ; secretion of the mucous membrane of the eyelids and nose generally diminished ; the tongue sometimes foul, frequently otherwise, but for the most part redder or more turgid than usual, with tendency to dryness ; bowels costive, but frequently distended with air and rumbling ; urine varying with the nervous symptoms or the food; countenance oftentimes unchanged, but more frequently anxious, or, as it were, on the *qui vive;* complexion often florid ; emaciation rarely to any extent ; feet and hands almost invariably cold and clammy.

Such is the cohort of morbid signs under which individuals may continue to drag on a feverish sort of life for weeks, months, or years ; moving among their fellow-men with a constant dread of collision, physical and mental. To them excitements come as shocks, which to others more happily circumstanced are the pleasing stimulants that render delicious the cup of life. To them new acquaintances, novel scenes, varying modes of life, the motley and complex associations that keep the

normal nervous system in active though healthy play, are, for the most part, electric impressions, which, after elevating the feelings "Olympus high," and engendering a *painful* excitement, "leave the flagging spirit doubly weak."

The class of individuals who are commonly said to be nervous subjects from birth comes under the same category. The difference between such and those whom the neuropathic state invades in some after-period of life, lies only in its being the result of primary organization in the former, and of subsequent circumstances in the latter, in whom, moreover, the signs are more exaggerated. In what the organization alluded to consists, further account will be given after determining the essential nature of the neuropathic condition. Meantime, I proceed to the cases of the second degree of neuropathy, in which the mental phenomena are predominant.

CASES OF NEUROPATHY, WITH PREDOMINANCE OF CEREBRAL SYMPTOMS.

Case I.—A man who was in the habit of labouring in the fields a short distance from town, after working a whole day in the open air in the month of November, when the weather was cold and moist, returned home shivering, with prostrated strength and pains of the limbs. He went to bed, and

sweated profusely. The next day he was still weak, and his appetite was gone. He forced himself to take some food, which, however, he could not digest. A surgeon, to whom he applied, purged him repeatedly, and thereby only increased the difficulty of digestion. When I saw him, he complained of a continued weight at the epigastrium; dull pain under the right lower ribs; dragging pain from the gullet downwards to the stomach; frequent nausea, tremors, and sleeplessness. These symptoms persisted obstinately for a month, the more as, from his station, the patient was unable strictly to follow the rules laid down for him. Gradually his mind became visibly affected, and by the time above mentioned he was a confirmed hypochondriac. He thought of nothing but his health; laid in bed two-thirds of the day, and only walked thence to sit on a chair, declaring that his limbs were paralyzed. He frequently cried out that he was suffocating, and sent repeatedly for a neighbouring clergyman to console him in what he considered his last moments. Yet though he eat little, his looks were good. True to his complaint, he soon sought other advice, and very consistently returned to me after a lapse of several weeks. In the interim he had consulted various medical men, and sundry quacks; the chief gist of whose treatment appears to have been excessive purgation. On this occasion I found his countenance puffy and

pale. He complained of extreme yielding of the legs; pain of the back between the scapulæ; tense feeling at the edges of the lower ribs; swelling and sense of weight at the epigastrium, increased by small quantities of food; absence of appetite, almost amounting to loathing; the tongue was flabby, slightly covered with tenacious mucus, and having reddened edges; frequent flushings of the face; creeping sensations along the arms and fingers, and sense of a ball rising from the epigastrium to the throat, were among his symptoms. He had rumbling of the bowels, and constant eructations. His mind was more rivetted to his ailments than ever, and he employed the most exaggerated and absurd language in describing them: "His blood was freezing and flying about" in all directions; his heart was often "exactly underneath the navel," and as often "in his throat," and so forth, though its beatings were always quiet. He had a firm conviction that no human aid could remedy his multiplied disorders; indeed, he came to me apparently merely to have the pleasure of a prolonged conversation about them; for though he listened to some moral arguments, and dietetic advice I proposed, he told me, on taking his departure, that he did not intend to act upon them, but await the termination of his sufferings as he best could. I have not heard of this man since. His case will probably lapse into one of confirmed

melancholy or mania. Among other suggestions, I remember to have recommended emigration to America or Sydney; and I have little doubt that the novel turn given to his ideas, as well as to the functions of his physique, by the voyage, and the new scenes he entered upon, would have a powerful effect on the complaints of this uncultivated labourer, which they might fail to have on a more refined individual.

For the rest, this is a case wherein the neuropathy is traceable to a purely physical cause, the action of cold and moisture on the surface; the patient, as far as I could learn, having undergone no previous mental shock or harassing anxiety.

The following case is an instance of neuropathy commencing from a mental shock :—

Case II.—Mr. C—— is now thirty-two years of age, and up to his thirtieth year had enjoyed good health. He was in active business, and married; and nothing intervened to make him anxious, or to harass his mind. About two years ago his elder brother died in pulmonary consumption; shortly after which event his younger brother, in the course of a visit to him one day, told him that he suspected he was labouring under the same disease, and would, ere long, follow their brother. Mr. C. described the shock which this intelligence gave him as being experienced in the epigastrium, and accompanied with coldness of the surface, and

tremblings of the limbs. His appetite immediately left him; his mouth became clammy, and bitter to the taste; his tongue was very soon covered with an ill-tasting fur; and he felt a constriction of the head, as of a cord passed around it. A few grains of blue pill, in divided doses, and two or three draughts of soda and lemon juice, did away, in a great measure, with these signs of disordered secretion. Still he was affected with a sense of sinking about the epigastrium, and a deficiency of appetite; his digestion also continued to be tediously long, and produced renewed uneasiness about the abdomen, as well as difficulty of respiration. His mind, moreover, retained the most sinister ideas concerning his own fate. He told me that he never looked at his wife without imagining her in a widow's dress; he never saw a funeral without shuddering and fancying his own corpse being carried along the streets with similar array. In company, or at the theatre, the same gloomy subject forced itself upon him; by no effort could he escape it; it accompanied him like a shadow. Though he often sent for me, because I spoke positively and cheeringly to him, yet, as soon as he heard me on the stairs, or saw me enter the room, a crushing terror came over him, inspired, probably, by the fear that I might be under the necessity of giving an unfavourable opinion of his disorder. He reiterated the questions, whether I

did not think he would soon die—how far his lungs were affected—if I was certain his disease was only nervous, and not necessarily fatal, &c., &c. He sometimes complained of his head, sometimes of his chest or stomach; at other times his arms, hands, or legs, were painfully affected, were twitched, uneasy, or numb; of wandering sensations of heat, and occasionally of cold, he also complained. Meantime, the countenance gave no indication of disorder; it retained its colour and plumpness, nor was his general physical power sensibly diminished.

For two years this gentleman has been more or less afflicted. At present his appetite is restored, and his digestive functions are tolerably well performed. Still, from time to time, he experiences an indefinable uneasiness of the limbs and in the internal parts, particularly the abdomen; the transitory and erratic sensations of heat also continue. Moreover, the same fearful and sombre ideas harass him, although not so incessantly, nor with equal intensity, as before. The periods of their accession are becoming more and more distant; days sometimes pass without their intrusion; and, in the interval, he appears to gain increasing power to resist their impression, and to drive them away. Though not altogether recovered, he is assuredly recoverable, and at no very distant date.

In this case I would draw particular attention to the facts — first, that the mental shock was in-

stantly reverberated on the epigastric region; second, that the mental disorder persisted after the partial restoration of the secretions of the tongue and mouth, while the appetite and digestion remained impaired; third, that the restoration of the morale was coetaneous with that of the digestive functions. The application of these facts in the rationale of the neuropathic condition will afterwards appear.

Gradual, but continuous irritation or tension of the mind ultimately produces the same neuropathic effects as a sudden and violent shock; this the following case will demonstrate:—

Case III.—When a student of medicine in Edinburgh, I became acquainted with a gentleman of middle age, who had previously been in general practice, but desired to obtain the degree of Doctor of Medicine. I have known two or three similarly situated, and have ever found the dread of the ordeal, the passage through which is to give them the wished-for title, more excessive in them than in younger and more buoyant aspirants. Their attention to study is also more close and persevering. This incessant tension and attention of mind to one subject, at length begat, in the gentleman in question, symptoms of disordered digestion, which became slow and painful, and was rendered more so by the smallest aberration from his usual quantity and quality of food, or time of taking it.

To this were added, borborygmi, flatulence, and, alternately, constipation and diarrhœa. At various periods he was subject to spasmodic pains about the chest, oppressed breathing, and palpitations of the heart. Variations of the atmosphere, and especially a north-east wind, affected him in a peculiar manner, aggravating all his uneasy symptoms. Of his health he would converse in a most exalted strain, and with extreme *gusto;* and, according to his own statement, no one breathing had such delicate and susceptible nerves as himself; yet, if I managed to draw his attention, and fix it upon something that had no reference to his complaints, he displayed a judgment of the nicest kind; his observation was acute, and his play of wit vivacious and amusing. A strange peculiarity in his mental symptoms was, a fear of being taken ill in certain localities, and under certain circumstances. He was quite aware of the want of foundation for his fears on this point; for never did it invade him —never did the dread of fainting, or being seized by some fit, take possession of him, without his being able to shake it off, for a time, by the strong efforts of his reason and volition. Nevertheless, this dread came upon him whenever he arrived at the lecture-room later than others, and when all eyes were turned upon him. When ensconced on the back bench of a box at the theatre he felt none of this, because he knew that at any moment he could

retire; but in the centre of the pit, whence there would be some difficulty in getting out, the same panic seized him, and kept him, as well as his companion, in a state of fidgety and most unamusing inquietude during the whole performance. So, also, in a ball-room: once embarked in the intricacies of a quadrille, the same pestilent fear came upon him; but, placed near the door, he could look quietly on the moving scene before him;—in short, the greater the obstacle to his retreat, or the more marked object of attention he was, the more was he a prey to this fearful sensation of approaching faintness or epilepsy. When he was first subject to these mental perturbations, he referred all his uncomfortable physical feelings to the epigastrium, but after some time he described them as consisting, also, in confusion and giddiness in the head. He remained in this situation for many months, and even for some time after he had ceased his studies and returned to his country home; ultimately, however, he recovered his health, both moral and physical.

I have met with many instances of the minor degree of neuropathy, which were unquestionably the result of an abuse of purgative medicines. Of the production of the more inveterate degree for the same cause, I am only able, from my own experience, to bring forward one decided instance, which follows. I am, however, not the less convinced

that such abuse is a very frequent generator of the worst forms of the nervous condition. How many are there who, through months, having employed some mild purgative at stated periods, find themselves becoming fidgety, tremulous, fearful, and sleepless. To what do they then resort? To purgatives of a stronger kind. These, for a time, irritate the nervous system of the digestive canal to an unnatural state of vitality, in the same manner that the increased quantity or power of the drunkard's beverage, or the augmented dose of the opium-eater, gives fictitious ease and insidious power to them. In the result, the parallel holds also: the opium-eater and the colocynth-eater alike ultimately fall into a hopeless state of neuropathy, the long-continued stimulation, in both instances, at length producing that condition of organic action in the nervous system which responds to no further stimulation; it no longer "comes to time," let the dose be augmented as it may. All the writers on hypochondriasm, of later times, have given evidence to the occurrence of that disease (which is indeed the more intense form of neuropathy) from the continued use of opiate medicines; and I think I shall be able hereafter to shew how medicines so opposite in their apparent effects may, notwithstanding, produce the same disorder. To return to the case in point:—

Case IV.—A lady, at present in her fifty-sixth

year, ceased to menstruate about nine years ago. In order to remedy the disorders which that revolution in the system generally causes, she was advised to maintain a copious excretion from the bowels. She accordingly commenced the purging process with powdered senna-leaves, of which she took her quantum every night. After a few months she found it necessary to take some more powerful medicine, and a strong infusion of senna and jalap-root answered her purpose for some length of time. Subsequently, at various periods, she was obliged to vary the purgative, but persisted in the use of some one or other up to the time I saw her, about eighteen months ago. I then found her in a most decidedly neuropathic condition, having, according to her own account, gone through all the phases of uneasy digestion, tremblings, startings, sleeplessness, and confusion of thought. The last purgative she had employed, and, indeed, was using at the time, was the precious compound of Morison, which she very simply told me brought nothing away but slime, and occasionally a little blood.

The appetite of this patient was not deficient, but the consequences of its gratification were most distressing: mind and body then appeared in one dreadfully fretful state of impatience. Yet there were no eructations, no nausea. The tongue was reddish at the edges, and split, not furred, in the centre. The breath was sour and hot; the gums

alway in a fiery, tumefied condition. She was much annoyed with itching of the nostrils, eyelids, and the external auditory passage. The same sensation, as also that of heat, was felt in various portions of the skin. She obtained some sleep in the day, but her nights were passed in tossing about, and in the revolution of sombre thoughts. Her complexion had become what may be called "dirty," though it was once very fresh. Her embonpoint was unchanged.

The *ideé fixe* in this instance was, that something remained in the abdomen, the removal of which was essential to her restoration. This "something" was the cause of the load she felt after eating: if she slept not, it was in her head; if a part itched, it was there;—nay, the light-brown spots which are so often seen in the skin of persons of her age, were, in her eyes, portions of this ideal entity, procuring egress by the surface. But the head-quarters of this evil genius she described as sometimes on the right side under the ribs, and at others at a point corresponding with the descending colon; if it were driven thence, she was convinced all would be right. The evidence of this consummation she conceived to be copious watery evacuations from the bowels for two or three days. Unfortunately, the latter yielded only some slimy mucus, even at the urgency of Morison's pills. No eloquence of mine could drive this idea from her

head for a long time; she thought, and I verily believe dreamed, of nothing else. Meantime, the tremors of the limbs, starting at noises, sinking sensation in the abdomen, added to the miseries of her situation. Having made it a *sine qud non* that she should take no purgatives, but have her bowels relieved every day by an enema of warm water and castor-oil, she went off at a tangent; and ere I saw her again she had run the gauntlet of three or four practitioners, who had humoured her to the top of her bent; but still the "something" remained. She now came into my plan, the reasons for which I took great pains to explain to her; and having kept her to it for some time by frequent attendance, which supported her failing faith, she became sufficiently quiet in mind to understand that some jaunting about the sea-coast would be beneficial. From this she has lately returned considerably better as regards the mind; but I doubt whether it is possible to change altogether the morbid degree of vitality that has been erected in the abdominal nervous system by the long irritation of purgatives.

The following well-marked case is extracted from Louyer Villermay's excellent work, entitled *Traité des Maladies Nerveuses: Seconde Partie*, p. 518. I present it in a somewhat condensed form:—

Case V.—"Mr. D. is the offspring of long-lived parents, from whom he received a perfectly sound

constitution. A sedentary life, however, and intense study, produced in him, towards his thirtieth year, a nervous disorder of the digestive organs, which has continued for twenty years, during the latter ten of which its intensity has diminished.

"In the onset, Mr. D. complained of stomachal derangement; his digestion was difficult, and accompanied with expulsion of a great volume of air, which considerably relieved the uneasiness that followed the ingestion of food. Subsequently, mucous vomiting came on. There was also much yawning and headache, corresponding more especially with the occiput. His limbs were not painful, but on attempting to rise after being seated for some time, a yielding of the knees took place, similar to that experienced by a drunken man. Both his head and lower extremities appeared to be so weak that he frequently dreaded he was about to fall. For a long time he was harassed by noises in the ears, resembling the distant sounds of some stringed instrument. At another period he was in the habit of awaking in the morning with a soreness of the throat, which, however, disappeared after his breakfast. Variously-marked disorders in his organic functions made him frequently anxious concerning the state of his health; and on these were founded the most exaggerated fears, a host of imaginary ills, a morose state of

temper, and an extraordinary tendency to fits of passion. The hair of his head frequently stood on end, and was even painful, without appreciable cause, the scalp having a bruised feeling. At other times a sensation of such intense cold took possession of his head, that had he not made a violent reasoning effort he would have believed that a wintry blast was passing over it. At intervals of five or six days, on laying his head on the pillow, he experienced a painful sensation at the back of the head, and a temporary loss of vision. Just as sleep was stealing upon him, a sort of movement commenced in the head resembling the action and sound of the pendulum of a clock ; this continued increasing until the state of fright into which it drove him obliged him to make an effort to rise. One night this sensation was so intense that he sent for me hurriedly; he told me that some hand had seized him by the throat, and was about to strangle him : he thought himself at the point of death. In the night-time, the cracking of a piece of furniture, the barking of a dog, or any other common-place noise, caused universal shuddering, and vehement palpitations of the heart. So also, in the streets, the sight of a man, or a horse, though in the distance, if it were approaching him, produced tremors and sinking in the abdomen.

During the last ten years, all these phenomena, indications of an exaltation of general sensibility,

have either diminished or are dissipated. The patient still, however, experiences the symptoms of a milder degree of hypochondriasm, such as flatulence, partial numbness of various parts, strange noises in the head, and anxiety concerning his different functions : but these intermit, and are tolerable. In other respects he enjoys passably good health, sleeps for a long time together, and rises refreshed. His appetite is good, and he gratifies it fully ; digests slowly, but completely ; and, in short, passes his time as he pleases, in taking horse exercise, walking, among his friends, in studying, and theatrical amusements. His reason also has become fortified against the fears that so frequently, and for so long a period, were torments to him—that is to say, when any new terror comes upon him he has only to bring to recollection the thousand groundless fancies he has already passed through, to enable him to cast away, in part or entirely, the present fright."

After this, let no neuropathic nor his physician despair. Ten years of perseverance in the treatment of a disease which does not compromise, but embitters life, is well repaid by ten succeeding years of comparative beatitude. For the rest, the above instance shews how long nervous disorder may exist without inducing organic changes in the parts originally or sympathetically affected ; for the author (who is, generally speaking, a precise one)

makes no mention of any such changes in the tedious progress of his patient's complaints.

From the same author I have extracted the case which follows: I find it among others of which I made note a long time ago, when my attention was first especially turned to the physico-moral disorder denominated "neuropathy."

Case VI.—"Mr. B., twenty-eight years of age, of good constitution, of a mixed lymphatic and sanguineous temperament, was endowed with a strong reflecting power, united to a mild and retiring disposition; and though possessed of extensive information, was exceedingly timid in developing it. An exclusively sedentary life, vehement mental conflicts, and close reading of theological works, had considerable influence in the development of an hypochondriac affection, the primary phenomena of which were as follow:—At first, slow digestion, decreased appetite, rumbling of the bowels, spasmodic pains (dragging sensation) about the pit of the stomach, and obstinate costiveness; subsequently, nervous palpitations of the heart, impeded respiration, creeping sensations, and occasionally numbness in the arms, giddiness, noises in the ears, unceasing propensity to converse about his health, unfounded fears of divers diseases, sleep in general good, though frequently interrupted by dreams. Not only did he avoid the common-place *reunions* of polished life, but even

the society of his intimate friends, and of his relatives, whom he loved as sincerely as he was beloved by them. He passed entire days in a state of inaction and complete apathy, careless of the urgent entreaties that were made to him to seek distractions in the theatre and other modes of amusement. The advantage derivable from these sources he recognised and willingly acknowledged; but the moral energy, the power of acting, even according to his infelt wishes, was wanting, and he again plunged into an apathetic stupor. The medical gentleman who attended him, despairing of influencing his patient's mind by reason and advice, recommended his friends to send him to the capital.

"When I first saw him he was taciturn, and had a look of astonishment and stupefaction. In order to gain his confidence, I first of all feigned to enter into several of his ideas. I told him that he really was very unwell, and, I doubted not, in a state of great suffering; that his disorder would require a long process of treatment, but that I could assure him, from the experience of several cases of a similar character, that his recovery was almost certain. He then proceeded to describe his state: —'I am,' said he, 'deprived of all intellect, of all sensibility; I feel nothing; I neither see nor hear; I have no ideas; I experience neither pain nor pleasure; all action, all sensation, is alike indif-

ferent to me ; I am a machine, an automaton, incapable of conceptions, of sentiments, of recollection, desires, or movements ; all that is said or done to me, what I eat or drink, all this is a matter of indifference to me.' Such was pretty nearly his language ; and in fact there was an astonishing slowness of action in all his mental faculties, but, at the same time, a considerable degree of rationality. His judgment was sound, as were equally so his imagination and memory. All his actions and movements were pertinent and rational. For the rest, his digestion, at the time I speak of, was tolerably good, and the patient made very slight complaint of it ; but the costiveness, which was now habitual, had not at all diminished. On a superficial examination, he might have been considered insane ; but it is nevertheless certain that the exposé he gave of his condition contained only the vague ideas and sombre reveries of a profound hypochondriasm, (or neuropathy in its most intense form.) Nor was the reaction of the morale on the physique less remarkable ; his resolutions were slowly formed, and their results as slowly consequent. He exhibited the same inactivity in all his acts—in rising from his bed, in dressing, walking, eating, and retiring to rest ; so much so, that the constant attendance of a servant, as a follower, or assistant, became essential.

" I perfectly agreed with him that his malady

was actual; but I made powerful efforts to convince him that the consequences he drew from its existence were erroneous, and that he mistook a certain degree of slowness in his mental and physical phenomena for an absolute abolition of them. 'Thus,' said I, 'in looking before you, you see nothing, or so confusedly as that it appears nothing to you; but look a little longer, and more attentively, and you will recognise in succession the different objects.' I then named them in order slowly, and he acknowledged that he saw them. 'Then,' said I, 'you *can* see.' Such was the ground-work of the moral treatment. When he appeared (as he sometimes did) uneasy, in anguish, and morose, I remained in conversation with him until he was in better temper. Physical treatment, chiefly hygienic, was also resorted to. He improved every month, and at the end of a year was completely convalescent; when, in order to prevent relapse, he consented to pass a few years between active life and travelling. He was also strongly warned against the causes that had originally produced his complaints. Eight years have now elapsed since his recovery, and during that period he has continued in good health."

Here, then, is a neuropathic condition so excessive as to verge upon melancholic mania, into which any long persistent nervous state is liable to glide, particularly when, as in this instance, the

sufferer is possessed of highly intellectual powers, that have been overstrained,—sufficient attention, meantime, not having been paid to the physique.

Having thus instanced the neuropathic or nervous state, from the simple to the most complex and serious degree, from that form in which the functions of the digestive and respiratory apparatus, and those of the apparatus of voluntary motion, are affected, up to that in which the intellectual office of the brain is added to the series of morbid operations, and even holds a place at the head of the list, it remains, previously to entering upon the rationale of the symptoms, briefly to enumerate the exciting causes by whose agency they are produced. I do not propose to dwell on this head in the present division of the subject, because I conceive that the exciting causes of disease should always be mixed up with the theory of the proximate cause, the latter being much more rationally explicable when free and frequent reference is made to the former. By their simple enumeration at present, and particular application when treating of the Essential Nature, much repetition, and therefore much perplexity, will be avoided, at the same time that the practical ends of treatment are gained, inasmuch as their announcement teaches to avoid or withdraw them. And as regards the exposition of the morbid results consequent on their action, their division into such as play upon the brain, and such

as play upon the viscera of the chest and abdomen primarily, or, in other words, into mental and physical causes, is that which is most evident to the sense, and therefore most justifiable when attempting the rationale of the disease. Under these two categories, then, the exciting causes of neuropathy may be enumerated as follows :—

The physical causes of nervousness are, improper diet, comprehending, on the one hand, highly nutritious or highly-seasoned meats, and, on the other, concentrated and stimulating vegetable matters, such as spirits, new and full-bodied wines, strong malt liquors, strong tea, particularly if green, &c. ; cold, and more so if accompanied with dampness ; long-continued lactation ; the suppression, irregularity, or excess, of the menstrual evacuation ; venery and masturbation ; hemorrhages, or their sudden suppression ; drying up of long-standing ulcers, or other secretory points ; excessive purgation ; the prolonged use of mercurials, of opiates, or of stimulating antispasmodics ; exposure to metallic vapours, &c. &c.

The mental causes, or those which are commonly said to act primarily upon the brain, consist in either sudden impressions on that organ, or prolonged irritation of it by study ; prolonged volition, (including excessive muscular exertion,) corroding thoughts, religious doubts, disappointed passions, *ennui*, &c.

The predisposition to neuropathy consists in a certain development of the nervous systems, both ganglionic and cerebral,* but especially the former, and which is attachable to the female rather than the male sex; in a certain age, the adult between the seventeenth and thirtieth years being the most subject to the minor degree of the state in question, while the major degree is more commonly observed after the fortieth year; in the sedentary habits entailed upon certain callings; in a high degree of civilization;† and, it would ap-

* How far the phrenological development predisposes to neuropathy, (in its more intense form particularly,) I am not aware whether observations have been made to determine; nor can I here offer the result of any *minute* research into the subject of this predisposition. I have, however, remarked that the cerebral development, as a whole, of hypochondriacs is often inferior, the anterior part of the head being narrow, and the entire skull altogether below what would be called a full development. The perceptive organs will generally be found prominent—the reflective, deficient: still, this is only a generality. The subject certainly deserves attention, but should not, in my opinion, be taken up by a *quand même* phrenologist.

Were such an one to be trusted, he would probably inform us that caution, self-esteem, imagination, and marvellousness, were predominant; while causality, gaicty, hope, combativeness, firmness, and adhesiveness, were feeble. My medical friend, of *Case* VII., discovers a most woeful deficiency of the organs of hope and combativeness; his causality and comparison, on the other hand, are admirably developed.

† Neuropathy, in any of its degrees, is a disease altogether unknown among barbarous nations. And there cannot be a doubt that in all its degrees it has much increased in this country within the last thirty years, a period in which civiliza-

pear, in the general organization that obtains in certain nations, such as the English, the Italians, the Spanish, and the Swiss.

tion has made such giant strides. It is no uncommon thing to hear our octogenarian parents say, "That in *their* youth there were no such things as nerves;"—possibly the cerebral centres of "their youth" were somewhat dull in receiving or making impressions.

ESSENTIAL NATURE OF NEUROPATHY.

The minor degree of neuropathy, the illustrations and the resumé of the symptoms of which have been given, does not appear to have engaged the attention of any writer with whom I am acquainted. On the other hand, that degree to which the name of "hypochondriasm" has been, from the most remote period, attached, has formed a subject for numerous and able authors from that period downwards. The opinions, therefore, which I am enabled to give of those who have preceded me on this point, refer more particularly to the hypochondriacal state. It will, however, be hereafter shewn how this latter recognises the same pathological state as that simpler condition commonly known by the term "nervousness," of which it is, indeed, a mere extension.

The most ancient opinion is that of Hippocrates, followed by Galen, according to whom neuropathy consists in an excess of the "black bile." During the long reign of humoral pathology, this

continued to be held in good repute, some modifications being made, from time to time, as to the organ by which the irritating humour was secreted, and the quality of the humour itself, which, with some, was acid, with others, acrid, too hot, imperfectly concocted, &c. Avicenna, Sennert, Marcucius, Riverius, Lower, Murillo, Rondeletius, Pitcairn, Mandeville, Ludwig, and Blackmore, held opinions of this kind concerning the proximate cause of the hypochondriacal state. Boerhaave imagined one species of the disorder with a material cause, and another without it: the former he supposed to consist in a thickened state of the bile.

Diocles Carystus, the physician of Antigonus, gives the stomach as the starting-point of the disease, that organ being inflamed. With variations as to the particular condition of the stomach, the same opinion is held by Aetius, Paul of Egina, Forestus, Pincetus, Sylvius, Highmore, Vogel, Pujol, Louyer Villermay, Broussais, Rapou, Morgellaz, James Johnson, and others.

Rhodius, Heurnius, Riverius, and Mead, make the spleen and pancreas the seat and cause of hypochondriasm; while Stahl, Kœmpff, Siegwart, Faber, and Juncker, make the *vena portarum* account for all the symptoms. The Arabs gave it the name of *morbus mirachialis*, (the word *mirach* signifying abdomen, or peritoneum,) and thereby marked their opinion of its

starting-point as being in all the abdominal viscera indiscriminately. Such was also the theory of Paul Zacchias, Fernel, Lind, and Stoll; the former, however, laying particular stress on the stomach.

The brain is considered as the seat of hypochondriasm by Linnæus, Sauvages, Klockof, Lorry, Pinel, Georget, Falret, and Rostan.

Lastly; a great number of authors maintain a disordered condition of the entire nervous system as constituting the essential nature of hypochondriasm. The majority, however, designate some point whence all the nervous symptoms radiate, and, for the most part, fix upon the stomach, the pylorus, or the spleen. Without reference to the particular viscus adopted by these, and without separating them from others, whose opinion is vaguely announced in the expression "general nervous disorder," the authors alluded to may be placed in the following order:—Willis, Sydenham, Boerhaave, (at least in his hypochondria without matter, or nervous,) Fleming, Robinson, Frederic Hoffman, De Gorter, Tissot, Raulin, Pomme, Whytt, Cullen, Lieutaud, Grimaud, Barthez, and others. Of these, the most lucid, and perhaps the most correct, ideas are those of Frederic Hoffman, who, combating the coarse theory of the spleen and *vena portarum*, says, "*Sedes mali hypochondriaci non est in liene, non est in vena portarum;* and then adds, "*Ut igitur nostram de sede morbi hypochondriaci sen-*

tentiam aperiamus, hanc in canale illo alimentari membranaceo, ac valdè nervoso, qui ventriculum ac intestinorum volumen constituit, collocandum est censemus."—(*De Malo Hypochondriaco.*)

Widely as these various opinions appear to differ, they may still be fairly grouped under two general categories. The first will contain those writers who assert the predominance of abdominal symptoms, and place the origin of the disorder in some viscus of the abdomen; the second, those who maintain the predominance of animal nervous symptoms, and place the proximate cause in the cerebral centre alone, or in it and its peripheric extension conjointly.

In both instances the opinion is founded on too exclusive a view of the symptoms of the higher degree of neuropathy. To say that in a hypochondriacal patient the brain is all in all, and the abdominal viscera inactive, or vice versâ, is assuredly to refuse the evidence of sense. The well-known physiological *consensus* of all the organs is opposed to either theory; and how much more striking is that unity in the pathological state? Still there can be but small doubt of the predominance of cerebral symptoms in the case in question; but this by no means proves the brain to be the starting point and sole maintainer of the mischief. Moreover, in those more numerous instances wherein the moral phenomena are but slightly developed,

and the abdominal and motor signs form the principal disorder, but trifling reference can be made to the brain for an explanation of what is seen and experienced. It becomes, therefore, necessary to ascertain in what cases the abdominal viscera, or, to speak more accurately, the ganglionic system of nerves distributed to the digestive organs originates and maintains the disease, and in what others the brain enacts the same parts.

The opinion which appears to me the most consonant with facts, and the best established by reasoning from them, may be stated thus:—*That, in the minor degree of neuropathy, or simple nervousness, the ganglionic matter distributed about the epigastrium is the only permanently diseased point; while in the more intense degree, disorder of the brain is added to that of the ganglionic matter alluded to, and partially assists in the maintenance of the symptoms.*

Preliminary to an appeal to pathological facts in support of this opinion, I propose to place before the reader certain leading propositions in the physiology of the body, the application of which, in establishing the rationale of neuropathic symptoms, will subsequently be made. They are as follow:—

1. The phenomena of life in general are the result of the operation of causes on the irritability of the body.*

* Brown, Blumenbach, Cuvier, Cabanis, Bichât, Richerand, Rolando, Burns, Gordon, Magendie, Broussais, Adelon, Du-

2. This irritability is represented by the ganglionic system of nerves as distributed, together with the blood-vessels, to all the tissues of the body.*

3. The grand result of the action of causes on the blood-vessels thus supplied with ganglionic matter is nutrition.

4. All the functions, and even the most sudden changes in them, imply a change in the nutrition

trôchet, Brâchet, Milligan, Tiedemann, Roget, Clark, and others, are my authorities for this proposition.

* Winslow, (1732,) Le Cat, (1765,) Johnstone, (1771,) Cuvier, (1799,) Bichât, (1801,) Richerand, (1804,) Gall, (1810,) Wutzer, (1817,) Broussais, (1818,) Bellingeri, (1818,) Lobstein, (1823,) Brâchet, (1823,) Copland, (1827,) Phillips, (1833,) Fletcher, (1836,) and others, maintain the doctrine of the ganglionic system being the primary seat of irritability: though to the latter each one gives his own epithet—"imperceptible sensibility," "organic sensibility," and so forth.

With regard to the distribution of the ganglionic nerves, together with the blood-vessels, I must refer the reader to the learned arguments of the last of the above-named authorities, (*Rudiments of Physiology*, Part II. *a.*, p. 72,) who, after entering into minute details, thus sums up:—"We seem to be fully warranted, therefore, in concluding, not only that wherever is a blood-vessel there also are ganglionic nerves as a part of that blood-vessel, but likewise, that wherever is a nerve, to whatever department of the cerebro-spinal system it may belong, there some filaments from the ganglionic accompany it; and consequently that, so far from this system being confined to the several viscera, it is so universally distributed over the body, as to be abundantly competent, as far as this condition is concerned, to impart irritability to every muscle, whether ministering to the organic or animal functions." And further

of the tissues and organs destined to perform them.*

5. There is therefore a change effected in any tissue or organ, the irritability of which, as represented by the ganglionic tissue in it, is acted on by ordinary or extraordinary stimulants.

6. The last proposition applies to the cerebro-spinal nervous matter, and the result is sensation, succeeded by passion or instinct, thought and volition.

7. These phenomena of brain-matter act as indirect stimulants to the irritability of other parts, and therefore play upon the ganglionic nervous system distributed to the viscera.

8. Impressions made on the viscera, and more especially those largely supplied with ganglionic

on (p. 73) he says, "And it is a strong corroboration of the prineiple whieh would trace ganglionic nerves to every point of the body, that, so long as the funetions of organs whieh minister exclusively to what is called organic life, and which are supplied almost exclusively from this system, continue to be performed, many of the functions even of organs which minister more particularly to what is called animal life, and which are supplied more remarkably from the cerebro-spinal system, remain unimpaired."

* In my translation of Tiedemann's "*Physiologie des Menschen*," the talented professor states, (p. 187,) "Each organ is maintained in the possession of its proper characters by nutrition, and, being so maintained, is rendered fit for producing its particular effects. A perfect relation exists between the intensity of the manifestations of life and nutrition." The same doctrine is reiterated in p. 394 of the same work.

nervous matter, are reflected on the brain matter, and modify its functions.

For the present I shall only dwell on the two latter propositions; those which preeede will be afterwards made auxiliaries in confirmation of them, as well as in the resolution of a question still more intimately connected with the proximate cause of the nervous condition.

The brain, in one of these latter propositions, is supposed to receive the primary impression. But the origin of all impressions on that centre of pereeption and relation is to be traced to certain wants intimately eonnected with our very being. The actions to whieh we are urged by our wants, and the command to whieh is given by the brain, by means of impressions made on the external senses, are invariably the consequence of the eondition of the viscera at the time when sueh impressions are made. Thus, if food be presented to the sight, to the smell, or the hearing, at a time when the stomach requires it, the pereeption is agreeable, and the desire of taking it, or appetite, is developed. But if it be presented immediately after a meal, the contrary is the case, and repugnance rather than appetite prevails. The same applies to the sensations eonneeted with the generative faculty, the impress of heat or cold, or of respiration; for whilst the chest expands on the ehange from an impure to a purer atmosphere, we

make every effort to contract the inspiration of the former. In this manner it may be shewn that the cerebral centre of perception judges of the impression of external bodies according as these have pressing reference or otherwise to the viscera which they implicate. Now, in order to the enactment of this judgment, it is absolutely necessary that the impressions made on the external senses, and transmitted by the proper nerves to the cerebral centre, should be instantaneously passed onwards by the latter to the viscera. But inasmuch as the judgment of external objects is founded on the responsive echo of the viscera, it follows that the reverberation from the brain upon the viscera is dependent for its direction upon the state in which the latter may be; and the general conclusion to be drawn will be, that whereas similar impressions induce to different actions, according to the state of the viscera, they are always reverberated on all the viscera at once; and that of the latter, those which are the most implicated in the impression will act the most energetically upon the brain, and determine the value of the impression as well as the locomotive acts dependent on the brain.*

In saying that the impression is reverberated

* The idiosyncrasies in this particular are numerous, and can only be attributed to the unusual supply of nervous nutritive matter to the viscus implicated in the particular idiosyncrasy. Very many ladies of modern Rome are affected with nausea and

from the brain upon the viscera, I mean only to state that the irritations produced by bodies upon the external senses are transmitted by the particular nerves to the brain, and from the brain to the viscera, by their nervous connexions ; and that the vital movements which take place in the viscera, upon the recognition of the impressions, are perceived by the brain, or, in other words, excite a proportionate sensation. Upon the sensation thus excited are founded the phenomena of passion, or

fainting at the smell of perfumes, which are indispensable to the toilette of our English belles ; the former

Die of a rose, in aromatic pain—

while the latter declare they cannot live without them. I have known two or three individuals on whom the smell of ipecacuanha produced palpitation of the heart, constricted breathing and nausea; they could even tell if it were in the room, by means of their visceral feelings. Every physician has some patient to whom camphor, aloes, valerian, or other strong-smelling drug is intolerable, from the visceral phenomena they excite. Many sights and sounds act in like manner. Shakspeare tells us—

"And others, when the bagpipe sings i' the nose,
Cannot contain their urine ; for Affection,
Mistress of Passion, sways it to the mood
Of what it likes or loaths."

For "affection," read "visceral yearning or sensation," which is certainly meant. All these are instances of passion, which, acting on the viscera, there produces sensations that are reverberated on and sway the brain, in which feelings of disgust, syncope, or anxiety, are thus originated. In fact, it is the visceral sensation, and not the scent, sight, or sound, that immediately acts in the production of this state of the brain.

instinct, and thought; the result of these again being volition and muscular movements.

Nor is the result different in the case where the intellectual faculties alone are said to be in operation. These faculties are unquestionably a consequence of brain function, but by no means a continuous one, the evidence of which is sleep; still, during sleep, the action of the brain is not annihilated, it is only diminished. If, then, it be said that sensibility and intellectual actions are functions of the brain, it must also be conceded that they are not the *only* functions, and that they are, moreover, intermittent. Intellectual operations, therefore, cannot be said to be merely acts of the nerves and brain; they can only be considered as *one* of the results of that action; and the principal function of the brain and nerves must be allowed to consist in an organic reverberation or transmission of impressions from parts that have received them to others. This transmission we have sometimes a consciousness of, and the power of modifying, constituting thereby an intellectual operation; at other times we have it not. An unborn child does not possess it: subsequently in life he obtains it, but on the condition of losing it, periodically, in sleep. During sleep, however, as before stated, the leading function of the brain, the transmission of impressions, is not interrupted, but only diminished, or irregularly exercised. Moreover, there is no thought

without previous sensation; and there is no sensation without previous irritation. Sensibility, then, is a forced condition; hence, again, the impossibility of its continuous duration, and the consequent necessity for its partial interruption by sleep. Irritability, on the other hand, is ever active, for nutrition is ever necessary; but in sleep the nutrition of the brain goes not on to the extent requisite to excite sensibility. Thus, whether there be consciousness or not, the brain is ever playing on the viscera, and receiving stimulation from them; and this must hold good *à fortiori* when the intellectual operations are in process. To adduce tangible instances:—Who can deny the interference of the viscera with the clear exercise of the thought when hunger, the venereal appetite, the anxiety for defecation or mincturition, are pressing? And is it not equally true that the intellectual power may for a time postpone the gratification of these instinctive feelings? And shall we deny the mutual connexion and reflection of stimulus between the brain and viscera, under ordinary circumstances, because such reflection is only painfully experienced, or violently combated against by the intellect, when the stimulus derived from the viscera has amounted to appetite or anxiety? It would be to the last degree irrational: equally so as to deny the supply of nervous matter to the bones, because, though acutely painful when diseased,

they may, when healthy, be sawed through without exciting sensation. We are therefore authorized to maintain, that, in the operations of the intellect, an impression is conveyed to the viscera, which is again reflected on and influences the brain in those operations.

Having shewn that impressions commencing in the external senses and brain are necessarily reflected upon the viscera, and therefrom derive their character and intensity, it requires no stretch of imagination to believe that the internal vital movements primarily produced in the viscera by stimulants of any kind, play upon, and influence, the vital movements of the cerebral centre, and the organs dependent on its action. Everyone is acquainted with the stimulating effect of a moderate meal on the voluntary muscles ; and too many with the paralyzing effect of an immoderate one on the same organs. The same may be said of stimulating drinks, &c.

In the preceding argument, the terms viscera and brain, irritability and sensibility, have been employed without further specification. It will, however, be understood, that by viscera the contents of the thoracic and abdominal cavities are meant—parts that are almost wholly supplied by nerves of the ganglionic system, and whose principal attribute, therefore, is irritability. Sensibility, on the other hand, is the attribute of the brain-

matter; but is still the *result* of its nutrition. Let us now, in summary, be more precise.

The nerves proceeding from the brain are the paths by which the sensations proceeding from the different parts of the body pass onwards from the perceptive centre, the brain. Volitions, also, or, in other words, the influences by which the cerebro-spinal axis induces movements of various kinds, are transmitted by the same route. These two phenomena constitute what is called *innervation*, and are both modifications of the general irritation called Life. Branches of the great sympathetic or ganglionic centre proceed with the cerebral nerves, and have equal right to be considered as conductors of irritation. This being the case, it follows that the irritations produced in the viscera, where the ganglionic system is centred, are communicated to the cerebral nerves, and by them brought to their nervous centre, the brain. It also follows, that the irritations commencing in the latter (thought, passion, volition) impinge more or less on the ganglionic centre, and by it reach the tissues where its nerves are distributed. But, as has been stated in the second proposition, wherever there are nutritive capillary vessels there is ganglionic nervous matter mixed up with them. The latter must therefore influence the deposition of cerebral matter, and the functions dependent on it. Looking to the immense quantity of blood

received by the brain, and especially the grey portion of it, compared with the other tissues of the body, we have good reason for inferring a proportionate degree of irritability, and therefore of ganglionic matter in its tissue. In fact, more ganglionic matter may be said to be collected in the cerebral tissue than in any other point of the body, the great sympathetic or ganglionic centre itself excepted.*

Thus the cerebral tissue and the great sympathetic may be considered as the principal collec-

* It may be asked how it happens, then, that this nervous centre is not endowed with sensibility to the same extent. The reply is, that the phenomena of sensibility are the result of an action in the cerebral matter deposited *after* the operation of causes on the irritability of the nutritive capillaries. True, similar matter—viz., white medullary, is found, but in very minute quantity, in the great sympathetic; and accordingly we find sensibility in it proportionately small. That it exists there, I am rather inclined to believe with Lobstein and Broussais, than disbelieve with Bräehet, whose experiments on this point are somewhat apocryphal, and require further confirmation. The sensibility of the ganglionic centre is dull or obtuse, but actually exists: witness the sinking at the epigastrium, the feeling of malaise, or, again, the shock that is experienced there in sudden and violent mental affections. Numerous arguments, also, go to shew, that, in those animals possessed only of ganglionic nerves, that system serves the double purposes of irritation and sensation. Be this as it may, it is at least certain, that on the ganglionic nervous matter is dependent the *susceptibility* of the cerebral nervous matter of being acted on by causes; and it is upon this truth that the whole superstructure of the theory I advance is founded.

tions of irritable ganglionic matter in the body. Moreover, they are continuous, inasmuch as the function of transmission enjoyed by the nerves of the former is also owing to their irritability, or supply of ganglionic matter. The sympathies between these centres will thus appear to be inevitable; they are the results of vital movements in collections of the same irritable matter; and the reverberations previously insisted on appear only as transfers of irritation from one to the other. Inasmuch, too, as the great sympathetic is the more concentrated collection of the two,—is to the general ganglionic system what the brain is to the general cerebro-spinal system,—it ceases to be a matter of surprise that it should interfere with, modify, and even forcibly compel, the operations of the cerebral collection. For a similar reason, that large collection denominated the cœliac ganglion and plexus (corresponding to the epigastrium) acts, and is acted upon, by this last more vehemently than any other portion of the nervous centre in question.* In health, the interference alluded to is but slightly dwelt upon by the brain; but in disease its effects are too striking and dread-

* In the fœtal state, the cardiac ganglion is the largest, the cœliac being comparatively diminutive; and this because, previous to birth, the want of circulation is the most imperative to the preservation of the individual; which end is obtained after birth by the ingestion of food. Accordingly, the cœliac aug-

ful to be overlooked or denied. But this is anticipating the subject.

It has been said above, that the reflections or reverberations of the brain on the great sympathetic, and vice versâ, would appear to be simple transfers of irritation. In what does this transfer consist? Here reference must be had to the fifth proposition, which states, that "all the functions, and even the most sudden changes in them, imply a change in the nutrition of the organs destined to perform them." The excitation of the brain consequent on the impression on the external senses, implies, therefore, a change in its nutrition; and this change modifies, and is modified by, the nutrition of the great ganglionic centre. The same, of course, applies, if the impression is made primarily on the last-mentioned part. It remains to inquire, afterwards, what is the nature of the change thus produced in the neuropathic or nervous condition.

This physiological proem will render more clear the foundations of the theory advanced concerning the Essential Nature of nervousness. It will also go far towards forming the rationale of its particular symptoms. Perhaps the most desirable mode of exemplifying my meaning will be to suppose

ments in volume, and becomes the chief point on which irritations from the brain impinge, and whence they are propagated to the latter. (See Lobstein, *De Nervo Sympathetico*. 1823. 47 *et seq.*)

cases in which the operation of different causes has been efficient in disturbing the harmonious play of the two nervous systems, as they are commonly called. These causes have been stated to be either such as play upon the external senses and brain, including mental causes; or such as have their immediate or primary operation on the internal senses or ganglionic system. Of the former, let us suppose long-continued and intense intellectual labour.

In the calmer degree of mental action, when thought produces less disorder in the system, either because the ideas have no reference to the primary and actually pressing wants of our nature, or in consequence of the individual constitution, no sudden perturbations take place; the morbid signs are slight, and organic changes elsewhere are but slowly produced. In such case, the brain is the first to be affected, and it is some time before the other tissues become so. This applies to all instances in which the intellectual faculties are excessively used without any mixture of passion. We then find fulness of the head, dizziness, headache, sleeplessness, or, on the other hand, somnolence, prevail, for a certain time, as the only *appreciable* symptoms of disease. The brain thus becomes a standing focus of irritation to other parts; and the visceral ganglionic system is the first to feel the effects. In the epigastric region more espe-

cially, anormal movements and sensations commence, such as sinking, gnawing, spasmodic pain, &c.; the appetite becomes capricious or annihilated, and the bowels torpid. The irritation thus evidenced, fails not to react on that already existing in the brain, and the voluntary muscles become affected with tremblings, twitchings, starting, shuddering; while sensations of creeping, cold, heat, &c., in various parts, are developed; the collection of symptoms, in fact, constituting the minor degree of neuropathy. Meantime, the abdominal irritation persisting, the attention of the brain is incessantly called to the movements and sensations in that region,—sensations and movements so unlike the quietude of healthy nutrition,—and becomes further irritated. The two centres of irritation then play upon each other; the epigastric centre ever reminding the cerebral, and the latter being painfully bent on the state of the digestive organs, and their effects on the general economy. The major degree of neuropathy, or hypochondriasm, is thus established.

Let us now suppose the operation of some passion as a cause of neuropathy. Here, too, the impression is primarily on the brain. But the effect on the visceral ganglionic system is much more rapidly produced; indeed, it is instantaneous, almost coincident with the passion; and this because our passions or instincts are more immedi-

ately connected with our wants and the viscera. That certain passions influence, and are influenced by, particular viscera, cannot be doubted; at the same time, it is to be remembered that their effect is on the entire viscera, that viscus responding most which is the most implicated in the passion. In their morbid excess, however, or long continuance, the greatest collection of ganglionic matter is the most liable, ultimately, to suffer. Thus, though the passion of physical love is intimately connected with the generative organs, its morbid effects are chiefly experienced in the epigastric region. Grief may be connected with the heart and lungs, but never without the sinking of the epigastric region. Joy may cause the heart to palpitate, but it also produces palpitation of the epigastrium, and effectually stays the appetite for food. The sensation that is aroused in the same region by anger cannot be mistaken; it is the most forcible of all the passions in its operation on the cœliac portion of the ganglionic system. Similar observations may be made regarding the effects of fear, hatred, shame, the love of offspring, &c., when excessively, that is, morbidly excited, or long-continued.

In the operation of any of the passions as a cause of neuropathy, the same kind of process takes place as in the case of the intellect, though different in degree. The reverberation on the

epigastric centre is immediate, and amounts to a shock. If the passion is sudden and excessive, death may ensue; and in such case it is by the annihilation of irritability at its very centre, and not alone, as is commonly said, by "nervous apoplexy of the brain"—a term, *du reste*, which explains nothing.* In this instance, the entire irritability of the body, as represented by the ganglionic system, is exhausted, without capability of reaction, by the lightning transfer from one to another portion—and that the central—of it. Should the visceral portion, however, react, the reaction amounts to irritation, which then plays upon the brain, and the consequence is, in the first instance, the minor degree of neuropathy, and by its subsequent persistence, and the consequent augmented irritation, the major degree, or hypochondriasm.

It is to be remarked, that whenever neuropathy is the result of intense intellectual labour, it is more frequently observed in its greater degree; and that, originating in passion, the minor degree, or simple nervousness, alone obtains. Such is the general fact; and it is explicable on the ground of the more immediate connexion between the viscera and the passions than between the same and the intellec-

* A man receives a blow in the epigastrium, and falls dead instantaneously. To content oneself by saying he died of "nervous apoplexy," is, indeed, to be in a blessed state of self-complacency!

tual functions. Accordingly, we find that the irritation of the visceral nervous system requisite to produce hypochondriasm, is greater than that which will induce nervousness alone; the time, also, that is required for the establishment of the former is longer than for the latter. Again, the irritation commencing in that portion of the brain allotted to the intellectual functions, predisposes it to receive that which shall be derived from the viscera, and the mental disorders are more profound; whereas, if it commence in the portion allotted to the passions, the intellect is the last to be affected, and that not very rapidly. Still, in all cases we find nervousness preceding the hypochondriacal neuropathy; and this, coupled with the fact above announced, bears favourably upon the division I have made, and countenances the theory I advance concerning the essential nature of the state now under discussion.

The overstrained exercise of the voluntary power, as evidenced in excessive muscular exertion, either in walking or manual labour, may be considered as a cause whose operation commences in the brain-matter, producing therein a morbid irritation which is reverberated on the visceral nervous system. Established in the latter, the symptoms of neuropathy, for the most part in the minor degree, are developed. It is well known that the effects of sudden and violent muscular exertion, especially when connected with some passion,—fear, anger, or

self-preservation, are frequently dreadful, and, by the vehement transfer of irritation on the ganglionic system, may cause instant fainting, or even death.*

Remains to mention, the *modus operandi* of another mental cause of neuropathy—namely, *ennui*. This is the more important as a vast number of cases date their origin from it, particularly in the country in which we live, where industry, prudent economy, and good government, have made so many affluent in circumstances, and withdrawn them from the excitements of the business that led to their independence. In it we have a converse cause to that in which the intellectual functions are overstrained, yet the result is the same. This requires elucidation, towards which, perhaps, the following remarks may assist.

I conceive *ennui* to act in a mixed manner, intellect and instinct being both implicated in the production of the neuropathic state. Here we might anticipate the worst form of neuropathy; and we find it. The intellectual organs, withdrawn from the exciting scenes and pleasurable associations

* Massinger beautifully introduces this phenomenon in his play, "A New Way to pay Old Debts," when he makes Sir Giles Overreach exclaim, in his frenzied attempt to draw his sword,

> "Ha! I am feeble:
> Some undone widow sits upon mine arm,
> And takes away the use of't!"

Immediately after which he faints.

of the camp and the mess-room, the wordy war of the senate and the bar, the anxious tumult of commercial speculations, or the ever-varying novelty of foreign climes and manners, soon feels the loss of extraneous stimuli. So long as these existed and were present, so long did the intellect find healthful and apt occupation from without, react upon the viscera so as to expedite their functions, and, in doing so, almost permit the individual to live in blessed ignorance that he had a heart in his chest, or a stomach in his abdomen:

"His bosom's lord sat lightly on his throne:"

and for his stomach, it was in one unceasing "committee of ways and means," and was sure to "report favourably" to the brain. Thus the interchange of normal stimulus was copious and continued, and the result full and unvarying health. But as in waking hours the intellect must ever be more or less active, these external and pleasing stimuli being meantime withdrawn, it seeks for exciting causes elsewhere. The objects of ambition being reached, the *otium cum dignitate* attained, the moral eminence of the individual among his fellow men gained, to what then should the thought turn for occupation? The feeling of physical self-preservation becomes active; it is shewn in the increased attention to regularity in diet, and hours of eating, sleeping, and walking; in the exceeding care of the person with regard to cleanli-

ness, articles of clothing, and change of atmospheric temperature. Gradually the individual makes frequent examination of his tongue, of the surface of his body, his urine, and other secretions ; cogitates more and more on them, and eventually becomes a confirmed neuropathic.

Meanwhile the viscera have ceased to derive the healthful stimulus from the waking brain which they formerly received. Add to this that exercise of limb, the tonic action of invigorating breezes on the surface, and early rising, are too often exchanged by the man who has abandoned active labour for short and measured promenades, hot, close rooms, and the sluggard's hours of sleep. All this plays unfavourably on the viscera, and more especially on the stomach, which, from the first onset, has been responding to the already predisposed brain. In this manner the pathological state may be said to commence in the brain and visceral nervous system simultaneously, and the cohort of symptoms is proportionately vast and terrible. Indeed, the uprising of the passion of physical self-preservation in one who, in his previous career, had set it at naught in the battle-field, "in perils by land, and perils by sea,"*

* One species of courage is founded on self-love, and is that which is the most commonly observed. Such courage will not screen the possessor of it from neuropathy, for he never exerts it in bearing up against physical suffering. For the most part, it disappears after the mid-period of life, when other mental tendencies take its place. Experience at the same time making

would seem to indicate the viscera as affected rather previously to, than simultaneously with, the brain. However this may be, it is certain that in neuropathy originating in *ennui*, passion and intellect, viscera and brain, ganglionic and cerebral centres, are both equally involved, presenting one of the most complicated, tedious, and intractable states of disease that a patient can be subjected to, or a physician be called on to combat against.

In these different instances of primary impression on the brain, it will appear, that though phenomena exist which cannot but be attached to that centre of perception, yet these are never developed until after the transmission of such impression to the abdominal perceptive centre. Being developed, the nervous symptoms are not entirely owing to the irritation in the brain matter; for inasmuch as they exist not previously to the irritation of the visceral nervous system, it is undoubtedly in the latter that we are to seek for their maintaining cause. It has been asserted in the physiological proem, that sensibility is a forced state — is the result of healthy nutritive irritation. To what part should we look for the maintenance of morbid nutritive

men more wise, they discover a host of inconveniences to which their courage has exposed them; they cease to cultivate it, and may then become neuropathic as soon as any one else. That kind of courage that is exercised from slight motives, or none at all—*phrenologicé* combativeness—is a much better protection, for it is allied to the contempt of physical suffering.

irritation, if not to the centre of that nervous apparatus on which nutrition depends, and with which the nutrition of all the organs so constantly sympathizes? To say, then, that the brain is all in all, even in the worst forms of neuropathy, is to make that organ independent of sympathy with other parts, even with the central seat of the primary power, irritability. Everything tends to the support of the theory, that at whatever point the morbid impression be first made, the *continuance* of the morbid phenomena is mainly attributable to irritation of the central ganglionic system represented in the great sympathetic. Both centres are implicated, but the balance of irritation is in favour of the last-named system.

In the operation of morbid causes upon the internal sentient surface, the rationale is somewhat more simple than in the preceding instances. Improper articles of diet produce irritation of the surface in question; this is transferred to the brain, which it maintains in a state of super-vitality and morbid nutrition. This is exhibited in the movements, which, in health, are voluntary, becoming involuntary — hence the shudderings, startings, tremors, twitchings, &c.; in the anormal sensations recognised and exaggerated by the brain, giddiness, darting pains, creeping, hot and cold sensations, &c.; and in the excitable state of the mind to the operation of causes on the external

senses (simple nervousness), or to that of causes existing in the internal senses, or visceral, (intense neuropathy, or hypochondriasm.) There is, however, a degree of nervousness, the result of such irritation, in which the brain gives evidence of the transfer either with or without external cause, but which cannot be said to amount to hypochondriasm. Thus many neuropathics remain perfectly quiet, unless a sudden impression be made on the sight, the hearing, the touch, or taste ; whilst others start and shudder when alone, apart from excitement of any kind. In the latter case, the internal visceral irritation would appear to be more intense than in the former, sufficiently so to alter the nutrition of the brain to the extent of morbid movement or sensation, independent of extraneous influences. Such cases are to be regarded as more grave than those in which the co-operation of the latter is requisite ; for they constitute the medium between the cerebral irritation that is readily roused by external circumstances, and that in which the visceral irritation is all in all to the brain, which it unceasingly occupies. But even within these extremes the varieties of the two irritations are numerous, and are to be judged of, in great measure, by the predisposition as exhibited in age, sex, form, and volume of head, abdominal development, &c.

The abuse of purgatives operates in the same manner as, though more vehemently than, im-

proper diet, in the production of neuropathy. So, also, does the excessive use of all medicines applied to the stomach, whether they be called stimulants or sedatives.* Indeed, I feel convinced that seven-tenths of the nervous cases that are met with in this country are the result of excessive medication, which keeps the internal sensibility in a continued state of exaggeration, exciting morbid sympathies, particularly with the brain, until the latter can no longer pass over the visceral sensations. This applies more especially to the abuse of purgatives, than which no class of remedies is more fallacious in the relief it brings. To the patient, however, they are a means of putting off the visit of the medical practitioner; while to the last-named they are, in the first place, an easy mode of gaining credit for speedy relief; and, in the second place, a certain mode of being, ere long, again in requisi-

* Were this the place, it might be shewn that the *primary* change produced by these apparently opposite remedies on the nutrition of the organs is the same in kind, the tangible phenomena whence they have their denomination being dependent on the *secondary* process that obtains in the capillary system of blood-vessels. I believe that all remedies act primarily as stimulants to the capillary irritability; and I would remind those who are inclined to sneer at the opinion, that while *they* place opium, which drives to sleep, and stramonium, which drives to madness, under the same head of sedatives, as also alcohol, which intoxicates, and ammonia, which cures intoxication, under the same head of stimulants, they have their own contradictions to reconcile, and would be well employed in explaining them.

tion. Great should be the reverence of the profession for the name of Hamilton, for many are the interminable cases of neuropathy that owe their origin to his writings!

The action of irritating medicines on the stomach for the most part begets an inflammatory state of the digestive mucous membrane, as well as that nervous excitation in which the essence of neuropathy consists. The intensity of the latter is gradually increased, from the simple visceral up to the mental predominance; and the phases are rapidly passed through. Arrived at the hypochondriacal variety, it is of all states the most intractable; for everything, food or medicine, taken into the stomach, exasperates the symptoms. It is a state not only of nervous, but of mucous secretory irritation, the capillary system of the mucous membrane of the stomach being involved, as well as the central portion of the great sympathetic situated immediately in the neighbourhood of the organ, which portion thus receives the morbid impressions from the mucous membrane as well as the brain. For it must not be forgotten that neuropathy may, and frequently does, exist without disordered mucous secretion of the stomach; and therefore that the irritation of the lining of the stomach is transferred, in such instances, to the cœlial ganglion, and does not in itself constitute the proximate cause of the symptoms.

The same applies to the operation of excessive lactation, or menstrual evacuation, as causes of nervousness. The long-continued irritation of the breasts and womb are at length transferred to the central nervous nutritive system, which then reacts on the cerebro-spinal system, producing generally the minor degree of neuropathy. Add to this, that during lactation the functions of the digestive organs are for the most part inordinately taxed, and an irritation kept up in the gastric mucous surface by increased quantity of aliment, that likewise preys upon the central ganglion. It is to be remarked, that excessive menstrual evacuation induces rather the signs of nervousness than that of hysteria—a fact worthy the consideration of those who look upon the latter as a consequence of uterine irritation alone, without reference to the digestive organs. Inordinate venery and masturbation produce similar effects in a similar manner.

But the *suppression* of the menses, and the drying up of ulcers and other secretory points, are also causes of neuropathy. By what process have they such effect? Here we must refer to the universal, and universally acknowledged, *consensus* of the body, by virtue of which no one organ has its well-being without giving to, and receiving from, the others, a due quantity of healthy irritation. This latter, again, implies normal nutrition, and is under the influence of the organic nervous system. Now, if

the function of an organ—that of the womb, for instance—be suspended, (I stay not to enumerate by what means, as it is not germane to the present subject,) the equilibrium between the functions in general is destroyed; the womb thus becomes a source of irritation to other parts, and more especially to the nervous centres, whence it derives its nutritive nervous influence; the reverberation would then be on the great sympathetic, and facts shew that it is directly on the gastric portion of it. Hence the nervous vomiting, the capricious appetite, the sinking, gnawing, and anormal movements in the epigastric region, that were so strongly developed in the fourth case of neuropathy with predominance of visceral symptoms, in which mental causes also came to assist in producing and maintaining the disorder.

What the secretorial disorder of the womb is to the entire economy, is likewise a long-standing ulcer or issue, or cutaneous eruption; and the same rationale is applicable to their suppression as a cause of neuropathy. They are established forms of nutritive irritation, have become necessary to the just maintenance of the same in other parts, and, when suppressed, they irritate the centre of all irritability.

Thus, to whichever of the exciting causes of neuropathy we turn, we are forced to the conclusion that the ultimate effect of all of them is

upon the central portion of the nervous system, which represents the irritability and nutritive power of the economy. In it we find the starting-point of all the functions, and on it all their disorders are reverberated. All the facts of neuropathy tend, moreover, to shew that, of the great sympathetic, that portion of it centred in the epigastrium is the most implicated in their production and continuance. It is not in gastric, or gastro-enteric, mucous inflammation that the essential nature of the disease is to be found; for neuropathy may exist without one sign of such, and they may exist without neuropathy. They not unfrequently accompany, and often terminate in, but are not essential to, the existence of the latter.* It is not in irritation of the brain alone that the essential nature of nervousness is to be found, for even apoplectic congestion may exist there without a symptom of the disease in question, without the brain being pain-

* Lord Byron, in his *Diary*, 1821, says, "I have been considering what can be the reason why I always wake at a certain hour in the morning, and always in very bad spirits,—I may say, in actual despair and despondency, in all respects, even of that which pleased me overnight. In about an hour or two this goes off, and I compose either to sleep again, or, at least, to quiet. In England, five years ago, I had the same kind of hypochondria, but accompanied with so violent a thirst, that I have drunk as many as thirteen bottles of soda-water in one night after going to bed, and still been thirsty. At present I have not the thirst, but the depression of spirits is no less violent. What is it?—liver? I suppose that it is all hypochondria." The fact would

fully occupied with the state of the stomach. Nor shall we find it in the simple morbid irritation of any tissue of any organ of the body, until that irritation shall have been powerfully reverberated on the great ganglionic centre, there to arouse an irritative condition that reacts more or less upon the great cerebral centre. Should that reaction be inconsiderable, and not strongly responded to, the minor degree of nervousness is the result; but should that responsive irritation be great, either from the predisposing form and volume of the brain, or from the primary operation of causes upon it, or, lastly, from the excess or persistence of the ganglionic irritation, the major degree, or hypochondriasm, is developed.

If it be now asked in what the irritation of the ganglionic centre consists, an answer can only be found in the phenomena that are observed in the viscera, and particularly in the epigastric region. These phenomena are undoubted evidences of aug-

seem to be, that in England, where high living and late hours awaited his lordship, mucous inflammation was added to the nervous irritation, and begat thirst; whereas, in Italy, where for weeks together he lived on tea and biscuit, the purely nervous condition of the epigastrium was alone present. *Du reste*, he appears to have had both the ganglionic and cerebral system in the highest state of development, his passions and intellect being alike strong. No wonder, then, that his brief career was one of storms and inquietude, and that at thirty-six years his *grey* hairs "went down with sorrow to the grave!"

mented nervous function; sensations and movements take place and are felt which are not recognised by the brain in the healthy condition of the viscera. Of such, therefore, the proximate cause can only be a state of nutrition in the ganglionic centre, which supposes increased influx and retention of the vital fluid, the blood, from which all deposits, solid and fluid, are made. Between the simply augmented influx of blood, and the inflammatory congestion that may end in disorganization, the shades may be infinite; and all that can be said of them is, that some minor degrees of sanguineous influx produce phenomena that come under the name of irritation, whilst the phenomena of other degrees are ranged under the term inflammation. Inasmuch, however, as both are degrees of the same state, there is no difficulty in conceiving the transition of one into the other, as well as their extension in the same or into other tissues. During a long period of neuropathy, the irritation, or inflammation (whichever it be) of the ganglionic centre produces only the symptoms that characterize purely nervous irritation; but in the progress of time the nutritive irritation of the part in question extends along the prolongations of nervous matter which connect it with the stomach, the liver, the spleen, and the pancreas. A similar irritation is then established in the capillary system of those organs, swayed as it is by the organic nervous

matter; and scirrhous, melanotic, tubercular, and lardaceous deposits are the tangible evidences of its existence. The disorder is then commonly said to have passed from a functional into an organic disease—from a nervous, into a substantial form; of which the latter only is liable to prove fatal.

That the part which the brain plays in the enactment of neuropathic phenomena is secondary, may, I think, be inferred from the extreme rarity of its passage from functional into organic disorder, or even from irritative into inflammatory congestion. It was stated in the detail of the symptoms, that neuropathy rarely, if ever, passes into insanity; nor is the horrid evidence of maniacal disturbance, suicide, the act of the neuropathic. While anatomical investigations have discovered, on frequent occasions of neuropathy, disorder of various abdominal viscera, no change has ever been recognised in the cerebral nervous tissue. Nor yet have the abdominal ganglions been found changed in structure; but, on the other hand, individuals have lived on through a series of years in a neuropathic state, have died by other disorders, (inflammation of the lungs, stone, &c.,) and on examination after death no structural alteration of any of the abdominal viscera has been detected. These, then, cannot be essential to that state; when present, however, they shew how predominant the irrita-

tion of their nervous system has been over that of the cerebral system.

Upon the whole, the theory now advanced concerning the Essential Nature of Neuropathy may fairly be said to be as well entitled to credit as any theory can be which rests upon presumptive evidence alone. Whatever may be said by others on this point, it is assuredly better and more creditable to hold an opinion which shall be *some* explanation of the pathological symptoms, and *some* aid in their treatment, than to deal in generalities which mean nothing, (witness the terms "general nervous excitement," "nervous depression," and such like,) or to glory in ignorance because the mind is too indolent to seek knowledge by the process of induction. The cant that "a fact is a fact," and the cant of "experience," which adds, that symptoms are facts, and in themselves quite sufficient for us to know, if universally acted upon, would soon arrest that scientific progression which it is the glorious attribute of man to be capable of effecting. To those who halt on the very threshold of pathological inquiry, I would recommend the eloquent advice of the late Dr. Fletcher, who, writing on physiology, says: "Upon every subject of physiology, and in every stage of our progress in the science, one opinion must be better supported than another; and any opinion—even though in some

measure conjectural—founded on the best information which the present state of our knowledge affords, and taken up, not more as a mere resting-place for the present, than as a stepping-stone to the future, must at least be better than no opinion at all, since it rather invites than opposes itself to further investigation ; and while it spares us much heart-sickening and hopeless confusion at first, often enables us, by working with our previous conclusions in future speculations, to arrive rapidly at truths for which we might otherwise have waited in vain. Let us not mistake, as is too often done, the vacillation of the timid, the indolent, or incompetent, for the caution of the philosopher, nor the decision of those who have boldness, industry, and talent enough to come to a legitimate decision for the rashness of the visionary. It has been admirably remarked, that he who dares not form an opinion must be a coward—he who will not, must be an idler—he who cannot, must be a fool. Let us have an opinion upon everything, . . . and be ready at once to qualify or to resign it, should any new facts occur to stagger or overthrow us. It is no reproach to any one to be wiser to day than he was yesterday; but it is a severe reproach to be, from first to last, an irresolute waverer, from a silly affectation of seeking for positive evidence in a science where such evidence is often unattainable, and a captious and fidgety habit of starting

difficulties, which a more powerful mind would either have disregarded as frivolous, or at once have dismissed as imaginary."

CONSTITUTIONAL NERVOUSNESS.

The development of the preceding theory of the pathological state which originates neuropathic symptoms, may throw some light on the physical condition of those individuals who come under the general term of "nervous." They form a large class in the middle and highest orders of most nations that are far advanced in civilization, and very frequently inherit the predisposition from their parents. In infancy, they are more subject than others to the visceral and cerebral disorders that attend the teething process. In childhood, they are more accessible to the passions of shame and fear: seldom is a nervous child revengeful, for his timidity counteracts a passion which, in its gratification, so much compromises the strong feeling of self-preservation. On the contrary, they are affectionate in disposition, as if, too well aware of their organic feebleness, they sought in the loves of others the protection their own vacillating nervous system will not allow them to find in themselves. Their countenance is often precocious, early throwing off the laughing carelessness of their years, and taking on the mobility that marks the ever-

varying, yet intense feelings of a more mature age. Arrived at the age of puberty, the visceral evolution, which in others acts but slightly on the brain, is in them accompanied with vehement nervous affections; and chorea, hysteria, or even epilepsy, not unfrequently demonstrate the intensity of its reaction on the cerebral centre. In adult age, this intimate connexion between the visceral nervous system and the brain persists, and is even augmented. The novelties they meet with on entering society, however sighed for, are *painfully enjoyed*—to use a paradoxical, yet, in fact, too true expression: for the nervous seek continual food for their peculiar sensations; they yearn towards excitement, even as the moth towards the consuming flame; they are leaves that tremble with every wind of circumstance, yet to whom a calm is desolation. That social desideratum, the *nil admirari*, they never attain; what agitated them yesterday will do the same to-day; and though the heart may be hardened by an insight into the motives of their fellow-men, the head never becomes sufficiently firm to resist the overpowering visceral motives within themselves. These last it is that urge them to seek excitement, yet render them ill able to bear it. The unceasing stream of sensations from the viscera is ever acting on the mental organ, maintaining it in a state almost of orgasm, or at least of super-vitality, rendering it thereby con-

stantly prone to the exercise of its function, and that function excessive—a convulsion rather than a well-ordered operation—an involuntary rather than a voluntary act. Who can mistake the mobile, anxiously tense countenance—the rapid yet stammering, broken speech—the tremulous, fidgety movements, of a highly nervously organized individual? But if opportunity is given of examining further into the peculiarities of such an one, we shall find him possessed of an excitable heart, that begets a changeable pulse, and palpitates with the slightest mental shock—of a tongue and fauces that become dry and clammy from the same cause—of a stomach whose function is disturbed by every breath of circumstance, the appetite of which, though good, is speedily satisfied, and as rapidly annihilated, which sinks and yearns, and palpitates from trivial causes—of intestines that, on the operation of similar causes, secrete volumes of air, are agitated, rumble, or, on the other hand, give the sensation of a vacuum in the abdomen.

Now, by what means is the brain made aware of the shocks it experiences except by more or fewer of these visceral sensations? Do they not, indeed, constitute the *essence* of the shock? If the individual experienced none of them, he would say, and justly too, that he had received no mental shock at all. Nor is the objection that such phenomena are mostly observed in those whose brain is highly

cultivated, or largely developed, at all insuperable. Those conditions only render the brain more apt for the reception of *external* impressions, more ready to transmit them to the visceral nervous system, and more alive to the *internal* sensations generated in the latter, and which constitute the nervousness. Moreover, the force of impression, or the impressability, of the brain is commensurate with the activity of the nutritive process going on in its tissue, and this, again, with the quantity of irritable nervous matter it is supplied withal, the latter being an extension of the visceral nervous centre. Unless, therefore, this centre were also more than commonly active in its nutrition, or large in its primary development, it would not so instantaneously and eagerly receive the irritative shock from the brain, nor so speedily and violently reflect back to it the sensations consequent on the change in its own nutritive process. In vain would the most vehement moral stimulants play upon the mind's physical requisite, were the visceral nervous system in such a condition of imperturbability as to remain indifferent to the irritations received from the brain: in vain would study or corroding thoughts occupy the latter, were there not another nervous centre organized so as to respond to the intimate physical state indicated by these moral conditions, were there not a heart that aches, and a stomach that suffers, by the profundity or acerbity

of the brain's thoughts. The whole evidence of the moral suffering is invariably some portion of the visceral nervous system—the moral suffering does not exist without such evidence; and the degree of moral suffering is regulated by that of the visceral sensation.

Whatever, therefore, may be the physical condition of the brain in congenitally nervous individuals, — whether it be largely or diminutively developed, whether the nutrition going on in it be excessive or not, whether it be highly cultivated by education or not,—it is certain that, receiving external impressions with more than ordinary vivacity, it is only made aware of this fact by the phenomena produced, subsequent to such impressions, in the visceral nervous system. This is the invariable fact, whereas the brain may be variously circumstanced, and the individual still be nervous. Whilst, therefore, it may be conceded as probable that a state of more than ordinary nutrition obtains in the cerebral centre of those persons denominated nervous, it must be granted that a high degree of development, or of nutrition of the visceral ganglionic nervous system, is the *essential* requisite for the establishment of the characteristics they exhibit. This degree of development, or of nutrition, renders the viscera more accessible to the reverberations that are continually being made from the brain upon their nervous tissue. The internal sen-

sations generated are consequently more intense than are observed in the general concourse of men, and are more powerfully reflected on the perceptive centre. It is in this particular that they differ from the latter, rather than in the extensive development of the brain, which may even be diminutive. Nor must it be forgotten that sensibility is a forced physiological condition; that irritability takes precedence of it as a primary physical property, and that the very sensitiveness of the brain tissue is thus necessarily commensurate with the degree of irritability as represented by the ganglionic nervous system, the centre of which is the great sympathetic.

The viscus that responds more particularly to the cerebral irritation, varies according to the organization of the nervous individual. In some it is the heart whose anormal sensation constitutes the nervousness; in others, sinking at the epigastrium is the "affection" which "sways passion to the mood of what it likes or loathes," and makes the brain aware of the impression; in others, the whole abdomen is occupied by a sense of vagueness, or yielding of its contents; in others, again, the sensations of the viscera, both of the chest and abdomen, are so vehement as to paralyze the cerebro-spinal axis, and cause either confusion of thought and trembling of the limbs, or actual syncope. Much will depend on the intensity of the first im-

pression on the brain ; if it be slight, that viscus (or, to speak more accurately, that portion of the visceral nervous system corresponding to it) which, from constitutional development, is the foremost in receiving and reflecting irritation, is alone affected ; but in more than ordinary impressions, the entire series of visceral ganglions is affected, and the heart may palpitate, the functions of the stomach be annihilated, the movements and secretions of the bowels be disordered, the urine copiously secreted, and the menstrual flux arrested, in the same moment. Much will also depend on the functional state of the particular viscera at the time a cerebral impression reaches them. Thus, during or immediately after the ingestion of food, the gastric sensation will be most vehemently acknowledged by the brain, and its secretions be most decidedly changed ; whilst, if the menses are being secreted, they are diminished or altogether stopped, and the consequent irritation to the brain from the womb will be great. Many females are nervous only during pregnancy, when the function of the womb is exaggerated. Can it be said that the state of the brain alone constitutes the nervousness in this case? Again, not a few are nervous during the flow of the menses only. Here, too, there can be no question that the state of the visceral system maintains the brain in a state of unusual impressability, and is the essential of the nervous condi-

tion. The nature of the passion, or mental feeling, will also, in some degree, determine the portion of the ganglionic system to be disordered. The effect of the majority of the passions is upon the epigastric nervous centre, even when they are not in excess; but there are some with which the cardiac ganglions seem especially to be in correspondence, such as shame and grief, while fear affects the entire visceral system, and in this manner sometimes so overpowers the brain and spinal cord as to transfix the individual to the spot.

Sufficient reasons, I conceive, have now been adduced in maintenance of the theory that the nervous constitution consists essentially in an anormal development or nutrition of the visceral or ganglionic nervous system. This view of the subject agrees with the opinion advanced concerning the Essential Nature of the neuropathic state previously discussed, the difference between the two conditions being found in the congenital development in one case, and the accidental increase of function in the other, of the system in question. It may also be remarked, that whilst in accidental nervousness the visceral sensations are chiefly referable to the epigastric centre, those that are experienced in the constitutional species derive from other collections of visceral nervous matter as well as the epigastric, according to the individual organization; the *entire* system, however, being

in such condition as powerfully and painfully to respond to the brain if the impression be great.

As regards the intimate state of the visceral nervous system in the two cases, it would appear to be similar, insomuch as the result—increased function—is the same, and implies increased nutrition; but inasmuch as the transition of accidental neuropathy from the minor to the more intense degree is frequent, the same being seldom the case in constitutional nervousness, the species and degree of that nutrition would appear to be dissimilar. In attempting an explanation of this, it must not be forgotten that, in congenital nervousness the viscera, even in the fœtal state, have ever been transmitting strong sensations to the brain, that the latter has thus acquired a degree of impressability which, though excessive, and in so far liable to be termed, by others, anormal, is, to the individual possessing it, actually a normal state: it is his *nature* to have a sensitive brain dependent on sensitive viscera; whose sensations, therefore, though he cannot but acknowledge, his brain dwells not upon as unusual, for they have existed since the time his perceptions begat reflections. Not dwelling on them, the higher degree of neuropathy, or hypochondriasm, is less likely to occur; and the lesser degree alone exists and persists through a long life, concomitant with embonpoint, and even robust health. Here, then, the nutrition of the

ganglionic system, though comparatively in excess, is absolutely normal; it is unusual, but not morbid nutrition—it is physiological, not diseased irritation. But in the instance of accidental nervousness, the brain is by no means so well prepared to pass over the augmented sensations in the viscera; and as the latter continue and become more intense, so does the brain, from having its healthy function interrupted and partially interfered with, at length become irritated to the point of incessant cogitation on the internal causes that are preying upon it, and hypochondriasm is established. Here the nutrition of the ganglionic system is both relatively and absolutely anormal; it is both unusual and morbid; it is diseased, not physiological irritation: still, in both cases, the unusual nutrition supposes unusual influx to, and retention of, blood in the part alluded to. Perhaps a parallel with the differences in the mode of this influx and retention may be found in the instance of a ruddy cheek; at least it will aid in the expression of my idea on the subject. Some persons have a circumscribed patch of red in the centre of the cheek at all times and hours; whilst others, having in health a pallid cheek, only discover the same kind of hue when there is some irritating or febrile cause at work. The same appearance obtains, but in one it is natural, in the other a sign of disease; in one it is

inalterable, in the other it may be dissipated: in both, the blood-vessels are unusually filled; but in one, this is owing to their great calibre, as determined by the primary organization; in the other, it is owing to their morbid yielding to, and overloading of, the contained blood. Something like this occurring in the ganglionic centres, probably forms the ultimate difference between congenital or constitutional nervousness and the same taking place accidentally.

From all that has now been advanced, the following pathological conclusions would appear to be rationally deducible:—

1. Morbid impressions commencing in the brain are reverberated, more or less rapidly, on the visceral ganglionic system, exciting in the viscera sensations and movements.

2. Morbid impressions commencing in the visceral nervous system are reflected on the brain.

3. Anormal sensations and movements in the viscera, however generated, are reflected on the brain.

4. The brain has no cognizance of a morbid impression except by the sensations excited in the viscera.

5. The degree and species of the morbid visceral ganglionic sensation regulates that of the cerebral sensation.

6. In neuropathy the brain is the medium by which the unusual sensations in the viscera produce their effects on the economy at large.

7. The sensations of the visceral ganglionic system morbidly irritate the brain, and, according to the degree of that irritation, produce either the minor or more intense degree of neuropathy, the brain being more involved in the latter than in the former.

8. The Essential Nature of nervousness is, therefore, to be found in the morbid irritation of the visceral ganglionic system; and as the anormal sensations are more especially referred to its epigastric centre, this would appear to be the most seriously implicated.

9. This irritation of the visceral ganglionic system, most probably consists in an increased influx of blood into, and nutrition of, its tissue.

10. It is highly probable that congenital, or constitutional nervousness, consists in an unusual development of the visceral ganglionic system, and consequent unusual susceptibility to impressions from the brain, the equable function of which is disturbed by the vehement sensations that are attendant on such susceptibility.

TREATMENT OF NEUROPATHY.

The old method of laying down a plan of treatment, by dividing it into the general and symptomatic, is one which the study of the Essential Nature of diseases might, it would be imagined, have altogether abrogated. One would have thought that, reasoning from the symptoms and their causes, and tracing the operation of the latter on some point of economy whence the former took their rise, an application would be made to that point, at the same time that the causes were assiduously guarded against or withdrawn. This "plain and simple plan" would appear, however, to want the charms of pedantry and delightful confusion to a vast number of those *esprits faibles* who rejoice in the exhibition of the variety of their resources, who glorify in the consciousness of being able to "attack" (such is the term) every symptom as it appears, and hunting each pain or ache through the Dedalian labyrinth of the human body. For such, the following remark of Tissot,

in his *Febris Laussannensis*, was intended, and it comes with all the concentrated causticity of Latin brevity:—"*Ridenda verbo et damnanda versipellis illa medicina, quæ mox capiti, mox pectori, mox renibus aut alvo medens, non modò nihil medetur, sed plurimum nocet.*" Being unambitious of any reputation that may attach to the system of medical strategics implied in the symptomatical treatment of neuropathy, and rather desirous to shew the mode in which it is expedient to counteract the morbid condition that obtains in the starting-point of the symptoms, I propose to treat the two degrees of the disease in question according as that point is confined to the visceral nervous system alone, or as it is assisted in the maintenance of the symptoms by the brain. For not only are the indications of disorder in the last-named organ so great as to shew its continued morbid reaction on the viscera, and therefore a necessity for additional counteracting means applicable to *it*, which are not essential in the degree of nervousness where the brain is only rendered more excitable to external impressions and not *bent* on the state of the viscera, but there would appear to be a difference in the degree of *visceral* irritation that renders necessary some distinction in the remedial means that apply to that irritation alone in the two instances. Thus, some remedies that are useful in simple nervousness—prussic acid, for instance—will be found

to exasperate the majority of hypochondriacal symptoms; whilst certain powerful tonic stimulants — strychnia among medicinal, and violent exercise among hygienic means, for instance— that are not unfrequently beneficial in hypochondriasm, for the most part are hurtful in nervousness. The difference, therefore, in the degree of visceral nervous irritation, as well as the additional and permanent cerebral disorder in the more intense degree of the neuropathic states, is good ground for the division proposed in the enunciation of the treatment, and I accordingly proceed upon it.

TREATMENT OF SIMPLE NEUROPATHY, OR NERVOUSNESS.

The theory advanced concerning the Essential Nature of this neuropathic state, supposes an augmented susceptibility of the visceral nervous system, and more especially the epigastric portion of it. It does not suppose a secretorial irritation of the digestive mucous membrane, which is, however, a not very unfrequent concomitant. The treatment will, therefore, in some degree, be modified by the presence or absence of this additional disorder; and in specifying the means to be used, a provisional caution on this head becomes requisite to be given,—the leading indication, however, in either case, being, to reduce the augmented

nervous susceptibility. In stating these means I shall also, as in discussing the operation of exciting causes in the production of the disease, venture some explanation of their *modus operandi* in producing a cure.

The remedial means are medicinal and hygienic. The medicines are rapidly stimulating substances, commonly called antispasmodics, sedatives, purgatives, tonics, and remedies that are usually said to produce counter-irritation. Of each of these classes of remedies some account will be given *seriatim*.

Antispasmodics.—These include the fetid gums and oils, castor, valerian-root, musk, opium in small doses, ammonia, in its different forms, alcohol, and its modifications of brandy and other spirituous liquors, ether, &c. The operation of all these is commonly said to be directly stimulant, while, at the same time, the sensible effect is that of sedation. This shews the vague manner in which the therapeutical results of remedies are spoken of, and the absolute want of principle that prevails in reasoning on the mode in which they produce those results. In the present instance the sedative effects are clearly to be attributed to stimulation of the stomach, and they consist in phenomena that indicate diminished susceptibility of the visceral nervous system and portions of the brain. It has been stated, that the augmented

nervous excitability constituting neuropathy, implied increased nutrition and influx of blood into the ganglionic nervous matter. Any substance, then, whose effect is to reduce this susceptibility to its healthy standard, must necessarily operate a diminution of nutrition and sanguineous influx in the matter in question. This it may do in two ways, either by producing irritation in another tissue, or by the directly stimulant effect on the nutritive capillaries of the ganglionic nervous matter itself, in other words, by stimulating the periphery, or the central portion of the nutritive nervous system. It may be questioned whether any medicine whatever acts in the last-named manner; for though many of them have decided effects on the nutrition of particular parts of the economy, these may be only results of their primary action on the part which first received them. Thus, in the case of stimulating antispasmodics, which certainly alter the nutrition of the great sympathetic, and consequently of the brain, some previous operation must be allowed to obtain in that of the nervous matter distributed with the capillaries of the stomachal mucous membrane. The precise and intimate nature of this operation we are not, perhaps, fully prepared to resolve. If the theory be allowed, which in all cases of increased function supposes increased influx of blood with relaxation of the capillaries, the latter must require

some more than ordinary stimulus for the purpose of rousing their diminished irritability, and causing them to contract upon, and rid themselves of, their augmented load of vital fluid. The highly respectable authorities for this theory, and the reasons they advance for it, are certainly cogent motives for receiving it, and I therefore incline to do so, the more as, without being so imaginative as to be inapplicable to practical ends, it explains much that would otherwise be veiled by vague expressions, as well as coarser and not more tenable hypotheses. In this view, the operation of an antispasmodic applied to the stomach would be to rouse the irritability of the nutritive vessels of its mucous membrane; and as it is a law of the economy that all excitement is succeeded by exhaustion, this increased would, more or less speedily, be followed by decreased irritability. The mucous membrane would then be in a state of irritation *quoad* other parts, but abirritation *quoad* its own nutritive capillaries. Now the irritation in question would most especially be experienced by the visceral and cerebral centres, (particularly the former,) and this for reasons that will appear on a review of what has been said under the head of the Essential Nature. It is this augmented irritation, communicated by the mucous membrane to the nervous centre, which produces in its capillaries that power of contraction on their contents, which, whilst it decreases the deposit of nervous matter, and the

functions dependent on it, exhibits an explanatory reason wherefore stimulating remedies, such as antispasmodics, are actual sedatives of unusual nervous action.

Meantime, the same law of alternate excitation and depression, as regards the nutritive capillaries, comes into operation in those of the central portion of the visceral nervous system, and they again fall into that state which allows the return of blood into the tissue of the system to which they belong. The consequence is, the reappearance of all the nervous symptoms; and that such is the fact will be conceded by all those who have accurately attended to the visible effects of the class of medicines of which I am now speaking. Their operation is ever transitory; and in proportion with the degree of primary stimulus they afford is the rapidity of the return of the symptoms they were designed to remove: the degree of capillary relaxation is always proportionate with the degree of previous stimulation applied.

Some of the above-named antispasmodic remedies have, for one of their visible results, an increased function of the brain as a whole; and it may be asked how this squares with the theory now advanced. Here it must be recalled that the minor degree of neuropathy consists in an irritative condition of the visceral nervous system, which interferes, more or less, with the nutrition and function of the cerebral centre. This irritation is

not of such degree as wholly and permanently to involve the latter, as is the case in the hypochondriacal state; on the contrary, its morbid effects appear to be almost entirely confined to the seat of voluntary power, which it places ever and anon out of the dominion of the intellect, causing the involuntary starting, shuddering, and other motor symptoms that are pathognomonic of simple nervousness. Apply a stimulus to the ganglionic centre so situated, and the irritation of the seat of voluntary power is removed; and whilst this is effected, the stimulants in question are producing their *secondary* effect (which is decreased irritability with increased function) on the cerebral centre as a whole: the cause which rendered the seat of volition uncontrollable by the intellect, is removed at the same time that the seat of the intellect acquires an increased function, which renders it master of that of volition. Accordingly, we find the nervous individual become, under the influence of such stimulants, less accessible to shocks from without—he is less under the influence of irritative causes within. He commands his muscular movements, because his viscera do not interfere to prevent it; he experiences comparative quietude, because the equilibrium of the nutritive process is better established between the different portions of the cerebral nervous matter on the one hand, and between them and the visceral nervous system on the other.

But, again, it must be remembered, that the beneficial effects of antispasmodics in reducing the nervous condition are transitory. Their operation over the patient may be even said to be harmful, for their repeated use at length leaves him more nervous than before; they even produce nervousness in one hitherto exempt from it, an instance of which I have given in *Case VIII.*, where the neuropathy was clearly attributable to the frequent use of compound spirits of lavender. Analogous instances are to be found in the consequences of long-continued intoxication; and the insatiable desire for a renewal of the stimulus is only a natural longing for quietude in one who, while his epigastrium is sinking and his hands trembling, knows full well the exact remedy to remove the one and steady the other. In such, as in those neuropathic persons who fly for relief to stimulating antispasmodics, the necessity for augmented stimulus magnifies with the use; and in both, though the brain may enact the desire, it is the state of the visceral nervous system that prompts it. And here I would remark upon the small ground for the exclusiveness with regard to the brain, which so generally obtains in reasoning on the phenomena and consequences of intoxication. They who attribute anything to the brain forget the thirst, loss of appetite, nervous vomiting, and see only the headache and tremors of the limbs: by them the fact of the dis-

appearance of all these symptoms, after a renewal of the dose, is inexplicable; for if they arise merely from inflammatory congestion of the brain, would it not be an approach to madness to administer that which is further to congest it? By adopting the rationale now proposed, the phenomena consequent on intoxication, and their removal by the very stimulus which produced them, are both clearly necessary results, the brain not being the sole organic motive for their occurrence.

Another consideration which must be entertained in the administration of antispasmodics in nervousness, is the presence of inflammation in the mucous lining of the stomach. If this be concomitant with the nervous irritation, the evil consequences will be still more prominent, inasmuch as the exasperation of gastric phlegmasia is superadded to the irritation in question after the transitory exaltation they have produced has passed. And I have not unfrequently seen the minor degree of neuropathy hastened in its progress towards the worst forms of hypochondriasm by the too frequent use of antispasmodics, in the vain hope of eradicating the morbid condition which is the germ of both. In short, if nervousness be not accompanied with gastric inflammation, it soon is so if stimulants of this character be employed; and both are exasperated by their use if both be present.

In the character, therefore, of agents in the ulti-

mate cure of neuropathy, antispasmodic medicines cannot be entitled to such reliance as would justify their administration in even the small minority of cases; as curatives they are inadmissible, for their effects on the proximate cause are not permanent. It frequently happens, however, that nervous individuals absolutely demand temporary relief from the harassing susceptibility to which they are a prey. Circumstances of business or society sometimes require that the patient should be, in the language of Lord Ogleby, "wound up for the day." In such case they may certainly be relied on, and, if the physician is willing to sacrifice his knowledge of what is right to his patient's convenience, must be employed. In the artificial state of society which obtains in this country, a similar necessity is too often pressed upon both the parties, to the further loss of health to one, and of credit to the other. Painful, too, is it to confess that the arrangements of medical practice make it, in many instances, imperative on the practitioner to play upon the patient with the remedies in question in order to his own remuneration; that the relief of to-day *must* insure the patient for to-morrow; that to "live and let live" is an axiom practically impossible to the great mass of medical professional men in this land of neuropathics. To satisfy, therefore, these circumstances of the patient and the practitioner, antispasmodic medicines are usually

prescribed; and the castoreum will be found one of the most efficacious in the production of temporary relief. The best form is that of tincture, the solid substance having a tendency to induce nausea, probably in consequence of its longer sojourn in the stomach. When constrained to employ castor, I have generally combined it with a light infusion of cloves or of hops, with tincture of cardamoms, in the proportions stated below.* Musk may be ranked as the next most efficacious, and, at the same time, least objectionable antispasmodic: three or four grains of the substance, or half a drachm of the tincture, three or four times in the day, will produce the palliation of symptoms for which it is intended. The aromatic spirit of ammonia, with an infusion of orange-peel, also restrains the nervous tumult, without being followed by so much subsequent exhaustion, or accompanied by so many disagreeables, as the fetid gums and oils. Of these the employment can only be justified by the most pressing circumstances, as where hysterical strangulation, convulsion, or locked-jaw, are superadded

* Tincture of castoreum, two drachms.
Infusion of cloves, six ounces;
or,
Tincture of castoreum,
——— of cardamoms—of each, two drachms.
Infusion of hops, five and a half ounces.
A table-spoonful of either may be taken every three or four hours.

to the signs of simple nervousness, which is sometimes the case at the period of the menstrual evacuation. Without such necessity they are certainly inadmissible; for though unquestionably more powerful in the production of antispasmodic effects, and therefore better suited to the most sudden and violent nervous perturbations, where the entire visceral system is acting on the cerebro-spinal axis, their power is scarcely required to suspend the degree of nervousness now being treated of, whilst, at the same time, their disagreeable odour and taste, their nauseating effect, and highly stimulating qualities, render them at once objectionable in character and inelegant in prescription. A lady, whose nervousness is suspended by assafœtida, will often be inclined to question whether it were not better herself to start and shudder than to behold her friends do so, when, with breath intensely redolent of garlic,

"Tainting the circumambient air with circumvenient gale,"

she offers them *sweet* welcome. Small, or, as they are commonly called, stimulating, doses of opium, as regards the *necessity* for their administration, merit the same remark as the fetid gums and oils; they produce the same nausea, are followed by the same exhaustion, and must be gradually increased to be efficacious at all, thus giving the patient every chance of speedily passing into the hypo-

chondriacal state. The same applies to ether and the alcoholic stimulants. In short, as the avowed end of the whole of this class of remedies is to effect a temporary suspension of the proximate cause, to act only as palliatives, it is incumbent on the physician to obtain this inferior effect by those medicines which are the least liable to objection on the score of physical characters and physiological properties. For a like reason the doses of any of them should be small and frequently repeated, the more as, if persisted in, an augmentation of quantity becomes absolutely necessary; and it were better, since sometimes it must be so, to allow the patient to glide, as slowly as possible, into the systematic stimulation implied in the administration of antispasmodics for the relief of neuropathic symptoms.

Sedatives.—The reasoning entered upon with regard to the tangible effects and intimate action of antispasmodics, may be applied to the *modus operandi* of opiates, but with more forcible effect. At best they are only palliatives, and on their continued use the worst consequences ensue. To give an opiate to a neuropathic patient, is to prescribe a dram to which he will eventually have recourse whenever the symptoms of nervousness recur; and this they will assuredly do with augmented intensity, the dose of the opiate, meantime, being necessarily increased in order to overcome the still grow-

ing visceral irritation. If, on the one hand, they subdue for the time the anomalous sensations and movements constituting neuropathy, they, on the other hand, and as a consequence, deprave the secretions of the entire intestinal canal, arresting those of the lower bowels; they cause dry, feverish skin, diminish the appetite, in lieu of which nausea prevails, and, until the dose is repeated, leave the patient in a negative state of ease, consisting in the absence of inquietude, but not in the exhilarating consciousness of the renewal of nervous vigour. Nor is this state of long continuance: the quietude passes away, and the nervousness returns with renewed intensity. The process is after this fashion;—the first effect in absence is equable nutrition of the entire nervous system, evidenced in what the French call "*le sentiment de bonheur;*" after some time, and when the internal and external skins (the mucous membranes and skin so called) have passed into the irritative condition, this irritation acts as a stimulus to the entire nervous system, producing in it diminished nutrition, and consequent state of languor or negative ease; the law of the economy before alluded to then comes into play; the nervous system again gives way, and the neuropathic phenomena are re-established. This may be repeated until the nutritive power of the nervous capillaries is so exhausted, their irritability so wasted, as to require the most powerful,

even poisonous, doses of opiates to act upon it and induce sleep. This constitutes the state called *delirium tremens;* and I have known one nervous patient who brought herself into it by the use of laudanum for the suspension of her nervous feelings ; it required an enormous dose of the same remedy to induce such a quantity of sleep as allowed of the renewal of the nutritive irritability.

Of the sedative remedies which are in general use as palliatives of nervous symptoms, there are two to be named in preference to any with whose effects I am acquainted. I allude to henbane and prussic acid. Though not so speedy and powerful in its action of allaying pain as opium in various forms, henbane possesses the recommendation of being succeeded by less mucous irritation and headache than the juice of poppy. These phenomena, which are evidences of exhaustion upon extreme stimulation, exhibit, in their mitigated degree, after the administration of henbane, the less active, but also less deleterious, properties of that remedy. For the majority of nervous symptoms, however, it will be found sufficiently active; and even where spasmodic pain is prominent amid the crowd of morbid signs, and opium becomes necessary to its removal, the combination of henbane with the latter is highly commendable, diminishing the quantity of opium that would otherwise be requisite, and diluting the evils that follow on the em-

ployment of that drug alone. In combination with musk I have also found it powerful in allaying the nervous headache that so often fixes on a small spot over one or both the eyebrows ; and I have, on several occasions, removed the same symptom by a poultice of henbane leaves applied over the epigastrium, though in this case much must likewise be attributed to the operation of heat on the surface, the more as fomentation of the same region with boiling water will have a similar result. The extract is the best form ; and the dose is three grains, with half a grain of opium, or with five grains of musk ; alone, five or six grains will procure quietude of the nervous system.

If there be any medicinal agent which acts more directly than another on the central irritable nervous matter of the body, it is prussic acid. In poisonous quantity, its effects are precisely those of a violent blow on the epigastrium ; it appears to annihilate the very centre of ganglionic influence, arresting the nutrition everywhere, and producing the "nervous apoplexy" of authors. In smaller doses, its sedative effects are rapid and decided ; nor does it seem to cause the mucous irritation that follows the use of other sedatives. In other respects, however, its consequences are the same ; and the return of the trembling, and other nervous signs, demonstrate its transitory power. Administered, as it often is, against coughs of different

kinds, it not unfrequently *generates* nervousness, accompanied with fulness of the head. Whilst, therefore, we may suppose an absence of morbid effects on the nutrition of the mucous membrane of the stomach, there can be little doubt that in all other particulars it operates as, and is liable to all the objections that apply to the more generally recognised sedatives in the treatment of neuropathy. Meantime, it is no small gain to avoid the nausea, thirst, and loss of appetite that accompany gastric mucous disorder, and on this account, as well as its speedy action, it is one of the most valuable of the palliatives of neuropathic symptoms. In this character I have had abundant proof of its efficacy; and, combined with other means to be hereafter mentioned, and which tend to the cure, it has appeared materially to assist in that desirable consummation. The sensations of sinking and gnawing in the epigastrium are the phenomena which it is the best calculated to subdue, and in doing so it exceeds all other means in rapidity. The best vehicle for prussic acid is fresh distilled water; the farago of ingredients which some delight to indite is here of mischievous tendency, for the active substance is lost in the midst of it. Its operation should be closely watched, especially in neuropathics whose brains are but too prone to congestion, resulting from remedial agents applied to the viscera.

As a general rule, sedatives should be administered in small doses, such, indeed, as just suffice to alleviate the exaggerated susceptibility. An exception to this rule may, perhaps, be made when acute pain is the predominating sympathetic sign. Let it not be forgotten, however, that in any dose they do not do away with the proximate cause; they are palliatives alone. Neither should it be forgotten that they are enumerated among the causes of neuropathy.

Purgatives.—In this class of medicines we have also a fertile cause of nervousness; nor should this be matter of astonishment. Can we wonder that drugs which generate an irritative condition of the highly sentient internal surface, to the point of trebling its secretory operations, should not only erect a morbid excess of sensibility in that surface, but also cause its extension to the nervous centre of visceral sensation? Can we wonder that this double irritation of the visceral periphery and centre reacts on the cerebral centre of sensation and motion, and produces anomalies in both? To the sound physiologist, no surprise can attach to this series of morbid events; for in his eyes the copious use of purgatives is one of the most violent means of assailing the primary power of nutrition at its very core, of disturbing the equable distribution of nervous power by its concentration in the abdominal viscera. The feeling of freshness which ensues in

some cases on the action of a purgative, is not the only one that should be attended to; that feeling passes, and it is then that the exaggerated vitality of the abdominal nervous system is discovered in more or fewer of the neuropathic symptoms. This obtains in those habitually given to the ingestion of purgatives, and begets the necessity of their speedy renewal in order to regain the transitory feeling of freshness and lightness alluded to. But if a large dose of a purgative be administered to one not so habituated, no such pleasurable sensation is experienced; the abdominal irritation acts so vehemently on the cerebro-spinal axis as at once to originate the tremors, yielding limbs, obfuscation of sight, and other signs indicative of morbid nutrition in the axis in question; and cases are on record of obstinate neuropathy that were attributable to a single excessive dose of purgative medicine. My own experience stamps these medicines as one of the most frequent excitants of nervousness that is met with in this kingdom; and if the blue pill and black draught of Abernethy have cleared the tongue of hundreds, I feel convinced that they have also muddled the entire nervous system of thousands.

If such be the fact with reference to purgatives as a *cause* of nervousness, what shall we say of them as agents in operating its *cure?* The truth is, that their use hastens the passage from the

simple nervous to the confirmed hypochondriacal state. Doubtless their immediate effect is palliative of the symptoms, and this because the renewed mucous irritative condition finds relief by the outpouring of a vast quantity of fluid, and acts at the same time as a stimulus to the central visceral nervous matter; but as the secretion diminishes, the capillaries, both mucous and ganglionic, return to their former state of chronic relaxation, and even to a greater degree of it, and the neuropathy is re-established almost always with augmented intensity. Nothing can be more fallacious than the temporary relief brought by purgation; it operates a gradual extinction of the individual,—more decidedly so than dram-drinking; it is the slow poisoner of all happiness, physical and mental, maintaining the nervous system in a state of excitability which it is painful to behold;—what must the feeling be? I am tempted to speak thus strongly from being a frequent witness of similar consequences in others, and from having in past years been myself partially drawn into the pernicious habit of purgation as a remedy for evils which I now feel convinced have been in some part perpetuated by such irrational attempt to remedy them.

Of purgatives, therefore, administered by the mouth, (and it is of such only I am at present speaking,) nothing further need be said. I know

of none that are useful or preferable: the comparison is between the degrees of mischief they produce. The words of Sauvages, when treating of neuropathy, "*Nil magis nocet quàm repetita evacuantia,*" is a text on which many lugubrious homilies might be founded. Woe to that man who doubts its truth!

Tonics. The operation of mild tonics is decidedly beneficial in simple nervousness; though, when powerful, they are stimulating to the gastric mucous membrane, and therefore in some degree liable to the same objections as the preceding remedies, their administration in small dose, in diluted form, and for some time together, will be found to produce far other effects, particularly when conjoined with a plan of counter-irritation. With these provisions, the stimulus they afford approaches nearer in kind and degree to that which the stomach receives from the ingestion of digestible aliment than any with which I am acquainted. If they induce no phenomena of vehement excitement, they are not succeeded by the exhaustion which is the characteristic secondary effect of antispasmodic remedies: nor does their use necessitate their gradual abuse, as is the case with the last-named medicines, with sedatives, and with purgatives. Their action is slow, and would appear to be on that account more sure: it is uniform, and therefore more worthy of reliance.

The tonics to which the above remarks are more especially applicable are, slight vegetable infusions, and one or two of the insoluble metallic preparations. The infusions of hops, calumba, cloves, chamomile, orange-peel, roses (compound), and pale bark, prepared cold, and in proportions that render them something more dilute than those of the London pharmacopœia, are sufficiently active for any good purpose, and not so stimulating as to have any hurtful consequences. For like reason, the doses should not be large: besides the probability of the stomach being irritated by the sudden and strong stimulation of large quantities, and the desirable end of their administration thus frustrated, it should not be forgotten, that, to be effectual, these tonics should be continued for some time, and that it would therefore be blundering policy, particularly in the instance of a nervous patient, to cause a disgust of them in the onset by a futile attempt to hasten their beneficial results. One ounce of any of the above infusions, repeated three or four times in the day, is amply sufficient and as much as will be found useful. The mineral tonics alluded to are, the *trisnitrate of bismuth*, and the *sesquioxyde of iron*. Their insolubility renders their action necessarily slower and less liable to be irritative: on the other hand, their weight will render them so if given in large doses. Accordingly, their best effects are the result of small doses frequently

administered; and they should be always suspended in some mucilaginous or saccharine fluid. The forms at the foot of the page represent the best modes of employing them: in such guise I have frequently found them produce benefit, but never mischief, though continued for three or four weeks in succession.*

The circumstance which contra-indicates the employment of tonics in nervousness is, the coincidence of mucous gastric inflammation: and the reason is obvious. In the present instance, it is rather discovered by the appearances of the tongue, fauces, nostrils, and palpebral mucous membrane, by the presence of thirst, thick saliva, and fixedly bad taste of the mouth, and by the permanently deficient, not capricious, appetite, than by the epigastric tenderness, which obtains to an exquisite degree where the gastric mucous lining is perfectly sound in function. The inflammation in question is best subdued by abstinence for a few days, dilution, and occasional draughts of soda and lemon juice, or what is sold by chymists under the name of "lemon and kali." If it be intense, (which is rarely the case,) leeches and fomentations to the epigastrium

* Trisnitrate of Bismuth—1 grain
Gum-Arabic mixture,
Syrup of orange-peel,—of each a dram:
To be taken three or four times in the day.

Sesquioxyde of iron—3 grains.
Syrup of marshmallow—2 drachms:
To be taken as the last.

become neeessary. When subdued, and after an interval of two or three days, (for the stomaeh readily relapses, even by slight stimulation,) the gentle tonies previously reeommended may be commeneed with. But I would again warn the praetitioner against the use of powerful tonics; against the concentrated vegetable extraets, the quinia and stychnia, the soluble and highly irritative salts, of iron, of mercury, and even of arsenie, that are so often and so reeklessly administered for their tonic properties in some stage or other of most diseases, but which, at any period of simple nervousness, will be found neither to give tone to the stomaeh nor to the viseeral and eerebral nervous centres. The reasoning *a fortiori* is assuredly specious when applied to the use of tonics in the minor degree of neuropathy.

Counter-irritative means.—The object of these is to excite irritation in some other part of the system than that in whieh the Essential Nature of the disease is to be found. Strietly speaking, antispasmodics, sedatives, purgatives, and powerful tonies, eounter-irritate, inasmuch as they produee irritation of the digestive mueous membrane, whieh then beeomes a stimulus to the nutritive capillaries of the ganglionie eentre. But the sympathies between these two sets of eapillaries are too immediate, the effects of one on the other are too violently produeed, to be eventually of benefit to either: besides which, the digestive eanal is too important a surfaee to the economy on which to

arouse an action that, to be effectual, should be, if not powerfully excited, perseveringly maintained or frequently renewed. And, indeed this is the reason why the preceding remedies eventually do more harm than good: it is because the sympathies between the tissues in question are direct and strong, that the neeessity for their morbid renewal is established: and it is because this necessity increases in force that the augmented irritation aroused in one, and acting on the other, must also be necessarily augmented to produce results equal to those which immediately preceded, until at length an unceasing state of morbid vitality is erected in both—a state of inveterate neuropathy.

Such, however, is not the result when counter-irritative means are applied to tissues whose sympathies with the nervous eentre of nutrition are weak and not suddenly excitable. Aroused in these localities, irritation acts in a slower but far more equable and permanent manner on the visceral nervous system than when the highly sensitive surface of the stomach is used for the purpose: and in eonverse proportion with the diminished violenee is the certainty of its operation, and the safety to the eeonomy at large. The theory of counter-irritation (whieh was indeed laid down when speaking of the action of anti-spasmodics) is founded on the reverberation of all nutritive acts on the central nutritive centre, and must therefore

apply to the external as well as the internal sentient surface, since ganglionic nerves and nutrition are found in both. But as the functions of the skin are of far less importance to individual life than are those of the stomach, so its supply of irritable nervous matter, and consequent sympathetic connexion with the central portions of it, are smaller and less forcible. In some diseases that consist in irritation, and even inflammation, of some important organ,—the brain in apoplectic fulness, for instance,—it may be necessary to excite sudden and powerful irritation in the digestive canal, copiously supplied as it is with nervous matter; for that which could be excited on the skin would not be sufficient stimulus to the relaxed and overcharged cerebral blood-vessels; the danger to life being meantime imminent. No such condition, however, obtains in nervousness: there is no motive for the same violent means, and, unless we are prepared to adopt the same treatment for apoplectic fulness as for simple neuropathy, we are not authorized to employ them. What would not suffice for the former, will be amply sufficient for the latter; and accordingly we are bound to seek a less sentient surface on which to excite counter-irritation.

This will be found, in the first place, in the skin. Nature points this out to us as one of the most effectual localities by which the peculiar internal irritation, constituting neuropathy, may be

relieved. For neuropathics are not unfrequently rid of their symptoms by the appearance of an eruption on the surface; by the application of a blister, employed for some other purpose, such as the removal of rheumatic pain; by a wound that passes into a state of ulcerative inflammation: by a smart fever; or by the irritative action produced by intense cold in the skin. But never does an accidental gastric irritation allay neuropathic symptoms. Taking example from nature, we should irritate the skin by all the modes that art affords. The milder should be the first practised, both because the irritation *may* be sufficient for the end, and thus the risk of visceral reaction be avoided, and the more powerful may always be used should these fail; a great point with neuropathics, who generally delight in the change of remedies. Friction over the abdomen with a flesh-brush, alternating with the use of some mild rubefacient; flannel bandages passed round the body, which at once irritate the skin and support the viscera; opiate plasters, over the epigastric region; these, and other means of similarly irritative quality, will be found to diminish, if they do not abolish, the anormal visceral sensations. Failing the latter, we have recourse to stronger rubefacients, to hot salt-water fomentations, to mustard poultices of such strength as to be tolerated for hours together, to powerfully irritating plasters, such as the *emplastrum ammoniaci cum hydrargyro*, with a slight

sprinkling of cantharides, or the *emplastrum galbani*, similarly modified, or, lastly, to burning moxa. All these should be applied over the epigastrium; and from all I have seen benefit derived, and from the plasters alluded to in particular. Moxas, too, I have employed with benefit, though, on the whole, they are more applicable to the hypochondriacal state. Blisters should not be raised on the epigastrium; their operation appears to be too violent, and I have seen them do more mischief than good. On the outer part of the thigh and arm, however, they are unobjectionable, and sometimes beneficial. Leeches to the epigastrium are scarcely advisable in the purely neuropathic state: if mucous inflammation of the stomach be superadded to this, they become necessary aids, as was previously mentioned. On the whole, the species of irritation to be erected on the epigastric region appears most beneficial when it produces the sensations of tingling, or itching; beyond that degree, it is as often liable to aggravate as to allay the symptoms of simple nervousness. On distant parts of the surface, the more vehement irritations are not without their use, and at least do not increase the nervous phenomena; a fact readily explicable on physiological grounds.

Another surface on which counter-irritation may, to a certain extent, be produced without sinister results, is the mucous surface of the large intestine, and for the same reason as that advanced

with respect of the skin. We are not, however, to hold the vitality of this organ, the colon, in too much contempt, and irritate it without judgment. The degree of irritation to be applied is such as will maintain it in a due secretory condition, and enable it to evacuate its secretions shortly after they have been deposited. Excessive purging is seldom of benefit; and when spontaneous, as it sometimes happens to be in neuropathy, generally aggravates the symptoms. The slow, continuous irritation denoted by a free and somewhat augmented excretion of fœces is unquestionably a powerful aid in the cure of nervousness. To produce and maintain this, frequent enemata are necessary; and they are doubly useful if they persuade from the employment of purgatives by the mouth. Indeed, by this mode, some antispasmodics, and even sedatives, may be administered with less mischievous consequences than if taken by the mouth; for their stimulant effects are not thus so sudden and violent; they relieve with smaller risk of ultimate harm. The injections should consist of warm water, holding in solution the various purgative salts, manna, aloes, or colocynth; or mixed with purgative oils; or of infusions of rhubarb and senna. They should always be used just before going to bed, in order to aid the chances of good sleep, by removing the additional irritation of the fœces. For the purpose, however, of maintaining a slow counter-irritation, two should be

administered every day, or even oftener, if the fœces are scanty or too solid. It is only in cases where hysterical convulsion, or locked-jaw, are added to the simple nervous signs that such irritants as turpentine or croton oils are admissible.

These two surfaces, simultaneously erected into counter-irritative points, render more efficient the minute quantities of tonic medicines previously mentioned. In fact, it is on the condition of their being so erected that the latter are advisable: alone, they effect but small benefit, and in their prolonged use are open to the same objections as other stimulants of the gastric secretorial power. Combined, these two classes of remedies prevent the aggravation of, if they do not altogether subdue, the morbid state of the visceral nervous system. Separately, the tonics are comparatively inefficient, whilst the counter-irritative means are always essential.

Proceeding on the same principle, in the *hygienic treatment* of nervousness, as in the medicinal, it is necessary to withdraw all internal irritation, and to excite a more active state of the external surface. The former is effected by the regulation of diet and exercise. The diet should consist of nutritious food in small and often-repeated quantities, rather than of full meals taken at long intervals. The periods of taking it should, however, be fixed; nor, if the sinking of the epigastrium and tremors of the limbs intervene, should recourse be had to

food unless the fixed hour be arrived; both will disappear after the body has been at perfect rest for ten minutes or a quarter of an hour. Nervous patients will not at first credit this, but some considerable experience of the fact convinces me that such is the case. The food, though small in quantity, should be in compact form; not composed of a mass which, by its bulk, irritates the stomach, not less than by its non-assimilable quality. Thus, small quantities of meat and bread taken every four or five hours are much more suitable to a nervous patient than the trash of the fruiterer or confectioner. Nor should the green-grocer profit by him; for nothing in diet is more objectionable than the accumulation of potatoes and green vegetables, which sometimes remain many hours in the stomach before they are animalized. The animal food should always be exceedingly well cooked; the less it is so, the more stimulating is it to the stomach, which thus comes to act as a morbid irritation to the ganglionic centre. For the same reason, all fatty matters are injurious; and eggs, which contain a quantity of highly irritating oil. All condiments, except salt, should likewise be eschewed:—a rule which closes the door to every kind of stew and "made dish," and leaves the choice between the different kinds of "plain roast and boiled." The fluid diet should be small in quantity, whatever the meal may be. Coffee and chocolate are less advisable

than black tea ;—*green* tea is a fertile cause of nervousness. In the course of the day, and always *after* eating, the quantity of some dry wine, such as brown sherry, may reach two or three glasses, either pure or mixed with a small quantity of water. Of course these rules apply only when the appetite is tolerably good. If gastric mucous inflammation co-exist with the nervous condition, abstinence, and dilution with *cold* fluids must be enforced ; both in this case and in the purely nervous state, I have found ice very efficient in quieting the visceral sensations.

I have spoken of exercise as an internal irritation : for it implies organic exertion of the cerebro-spinal axis in the act of volition. The nutrition of this organ is already sufficiently disturbed by the visceral sensation, without being further strained in the process of voluntary motion. I confess to have frequently marvelled to hear active exercise recommended in instances where the limbs refused to obey the will, and where the effort to bring them under its dominion was accompanied with distressing visceral sensations. The common cant is, that nervous persons "*fancy* they cannot walk"—whereas the "fancy" is all on the side of those who make the remark, and the dread reality with the neuropathic sufferer. When one hears of violent horse-exercise, "a gallop round the parks," being insisted upon, one would suppose the strength of the rider to be almost equal to half that of his

horse, and not the puny tremulous efforts of an individual whose limbs are not to be depended on for a half-hour promenade; a nervous patient might very reasonably ask, at the termination of his ride, "whether people ever galloped twice." The explanations that have been given under the head of the Essential Nature, render this phenomenon of impaired volition sufficiently clear as to its cause; and the fact of its existence should be good ground for discountenancing the futile attempts to overcome it by such means. The best method is, to procure the advantage of fresh air without exerting the limbs, as by gestation in an open vehicle, or, if the weather permit, by sitting in the shade. As the patient improves, gradually increased active exercise may be used. No exertion should be made in the morning until the stomach has been refreshed with food. If there be one rule more imperative than another on a nervous person, it is that of taking breakfast in bed. Before the exertion of dressing, he will be able to eat; but it will almost invariably be found that neuropathics who descend from their sleeping chamber enter the breakfast-room as a mere matter of form—they eat nothing. For the same reason they should be enjoined to remain quiet in their seats when at home during the day; not to be hurrying from room to room, changing their dress again and again, and thus keeping their voluntary muscles in a continued state of action. All this may be

called pleasing distraction, and those who conceive nervousness to be in the imagination alone, are in the habit of recommending it, and with as little reason as they advise the corporeal exercise before mentioned. Consistent in error, they are also found to recommend the excitements of society in the shape of morning visits, balls, concerts, theatrical amusements, and other triflings; which, however, are no trifles in their operation on the viscera by their perturbating influence on the brain. This supposed counteraction of the supposed morbid imagination is both irrational in theory and pernicious in practice. For let the appeal be made to a decided neuropathic, and he will tell you that after similar excitements all his symptoms are aggravated, and that even during their continuance his sensations are *painfully* exaggerated. It is because this erroneous idea is acted upon when patients of the class in question are taken to watering-places, that these seldom prove of any lasting advantage to them, and not unfrequently exasperate their maladies. Fashion, the offspring of the grossest ignorance, is much implicated in this false estimate of mental remedial means, and physicians are often obliged to prostrate their better judgment before her shrine. It is fashionably expedient that a nervous patient should be amused by these means, *therefore* it is medically expedient that they thould be tried. Being tried, they will be found wanting.

Never should the fact be lost sight of, that the visceral nervous system, in nervousness, is maintaining the cerebro-spinal system in a state of exalted susceptibility to external impressions. With this constantly in view, where is the rationality of multiplying such impressions? Should not the rule rather be to withdraw all stimulating agents so far as it can be done, to act upon the augmented cerebral susceptibility as little as may be, and thus to prevent the reverberations that must in consequence be made upon the primarily and permanently diseased point in the viscera? Such is the rule deduced from physiological reasoning; such the rule in accordance with pathological facts; and such will be found most applicable in the curative process. Regularity, carried even to the extent of monotony, in the functions of the entire nervous system, is the pressing desideratum; pursued, quietude is the result; contemned, the nervous tumult is perpetuated.

The next hygienic indication is to produce a more active state of the external surface. This is effected by the atmosphere, water in the shape of baths, and clothing. A cool atmosphere is more congenial to nervous patients than a warm one; indeed, many of them lose their nervousness during dry, frosty weather. The stimulus of the sun's rays would appear not to excite the exact degree of irritative action on the skin which shall

lessen the internal irritation; it is rather an augmented secretorial irritation of that surface, better adapted for removing mucous inflammation than the morbid nervous condition of which we are speaking. Cold being the negative of heat, supposes the withdrawal of the stimulus of the latter. Now, the stimulus to the irritability of a part being removed, the latter accumulates in the capillaries, until at length they vehemently contract upon their contents, and, in the skin, paleness is produced. As, however, all violent exertion of the irritability is followed by exhaustion, the capillaries soon relax to the degree of admitting more than the usual quantity of blood, and, in the skin, redness is the secondary phenomenon. But this is an irritative state, (different in kind, however, from that caused by heat,) and as such has a beneficial action on the internal irritation in the manner stated when mention was made of counter-irritative means. Such I conceive to be the *modus operandi* of cold air in the allaying of nervousness; and it is borne out by the phenomena produced by cold on the surface, the redness being always preceded by at least a ripple of paleness. Whether this notion be correct or not, dry cold is unquestionably more beneficial than heat, particularly when no gastric mucous inflammation is superadded to the nervous irritation. The effect of hot rooms, crowded or otherwise, is familiar to, and dreaded by, every purely neuropathic sufferer—a fact worthy of considera-

tion when attendance at soirées is recommended as a mental curative agent.

It might be supposed, from the preceding, that cold bathing would also be preferable to warm baths ; and so they really are. But it should be remembered that water is not the natural atmosphere of the human body, and that when applied to the surface, it must necessarily be a more vehement stimulant to it than air. This applies to all degrees of temperature : and the same degree of cold air which would produce the requisite extent of cuticular irritation would, if the atmosphere were aqueous, induce an inordinate, inflammatory, and pernicious species of irritation. The shock to the system is in the same proportion. Were a nervous patient to plunge at once into a bath of 40°, the consequences would probably be the contrary to favourable. He should therefore be, in the first instance, advised to try a tepid bath, and when in it, to make free use of the flesh-brush over the body, and especially the abdomen. By degrees the temperature of the water should be lowered down to 50°, beyond which it is not advisable to go, the superficial reaction being liable to be then too sudden and vehement : in some constitutions it will not take place without subsequent violent exercise, which it is desirable to avoid. Cold bathing is contra-indicated by the presence of gastric inflammation, which should

first be subdued. Baths should be taken when the stomach is perfectly empty of food, and a short time previous to a meal, the digestion of which they then facilitate. The patient should never remain long in them, for they then generate an irritation of the surface which is unfavourable to the viscera, as may be seen by the increased lassitude of the limbs, clamminess of the mouth, and thirst, headache, &c. Nor is the sudden plunge advisable; the reaction being then excessive. The body should previously be sponged or gently splashed with water, of the same temperature as that in which it is afterwards to be immersed; by this means the shock is diminished. A similar effect renders cold shower-baths of dubious benefit: I have seldom seen good produced by them, whilst the tepid shower-bath has generally obtained quietude of the nervous system. I have not found salt-water more efficacious than fresh; and it is probably the sea-air, rather than the sea-water, that renders the coast a pleasant place of residence to neuropathics.

As the object of hygienic means is to produce a tonic irritation of the surface, the clothing should be adapted to that end. This will not be attained by innumerable drawers, infinite waistcoats, and multiplied coats, which originate and keep up a secretory irritation that may be useful in internal chronic inflammations, but will be found of little

benefit, if not of positive evil, in nervousness. That degree of irritation which shall maintain the normal and equable heat of the skin, which shall keep the quantity of its oleagenous and aqueous secretions at one fixed and not excessive extent, is the desirable condition which the clothing of the neuropathic should be adapted to produce, in conjunction with the other means specified. This is best effected by having the clothes that are next to the skin always clean; by not allowing the flannel or the linen to imbibe a great quantity of the cutaneous excretions, in consequence of which they become actual stoppages to their secretion; and by not keeping up a vaporous atmosphere immediately about the body, by the redundancy and tight-buttoning or lacing of the outer clothes. "Clean linen, and plenty of it," was the autocratic saying of Beau Brummel, and he deserves well of his species for the physiological propriety of the command. To the nervous, in whom it is so eminently desirable to re-establish the equilibrium of the nutritive power of the organs, the advice is most applicable; for besides the effects above alluded to, frequent change of under-clothing produces a soothing sensation on the surface, a feeling of comfort and quietude, that is in direct opposition to the thousand anomalous feelings to which the skin is a prey in their peculiar condition. Flannel is by no means essential, except, as before stated, in the

shape of a roller, surrounding and supporting the loins and abdominal viscera: and even for this I have frequently seen the belts of elastic web, (not of India-rubber,) in common use, an excellent substitute. In other respects, the clothing may be that adapted to the season, and in ordinary use.

It behoves from time to time to revive the circulation in the extremities, particularly the feet, the icy coldness of which is so frequent and distressing a symptom to nervous patients. I say, from time to time, for the ultimate and permanent restoration of heat in those parts can only be hoped for when the concentration of nutritive energy in the abdomen shall be dispersed and equally distributed over the body. Worsted hose, and similar contrivances, avail little; the feet for the most part excrete a cold perspiration, which, imbibed by the stockings, after some time gives the sensation of standing in cold water. Better far is it to change the hose frequently, and each time of doing so to employ friction with the hand or a rough towel: the temporary glow that succeeds procures some period of partial relief to the nervous state, and this on the principle of counter-irritation. Warm foot-baths leave the feet very soon colder than before, and moist and flaccid, the sensation of which is horrible.

The principal means of acting on the proximate cause of nervousness have thus been passed in review. In doing this, I have rather spoken of those

which my own experience gives me warrant to do than of the various modifications of them which the same principle of treatment allows of being made; such modifications will occur to every practitioner, and to enumerate them here would probably be to volunteer what is unnecessary, besides extending this treatise beyond the limits I proposed to myself in its commencement. Suffice it that, throughout, one pathological and one therapeutical principle has been adhered to,—adhered to from a conviction, founded on experience as well as reasoning, that in the former, the true essence of the disease, and in the latter, its rational and effectual treatment, are to be found.

TREATMENT OF THE MAJOR DEGREE OF NEUROPATHY, OR HYPOCHONDRIASM.

The length at which the observations on the treatment of simple nervousness have been entered upon, precludes the necessity for any prolonged account of the management of this modification of the same essential condition. Consisting as that modification does in the permanent extension of the visceral ganglionic irritation to the cerebral centre, which thus comes to play a part in the maintenance of the symptoms, the attention is naturally directed to the last-named organ in the consideration of the treatment. But besides this, we have also to look to the more intense degree of the

visceral irritation by which the viscera are rendered more accessible to causes acting on the brain, and to the more decidedly developed irritation, not merely augmented susceptibility, of the latter. Of this, however, more will be said when we enter on the hygienic section of the treatment of hypochondriasm, in which, indeed, the leading distinction lies between it and that of simple nervousness.

Meantime, and with regard to the medicinal means, there is little to be remarked that would not be iteration of what has preceded in speaking of nervousness. The observations there made on antispasmodics, purgatives, sedatives, and tonics, are still more forcibly applicable to hypochondriasm: they draw the attention of the brain more vehemently to the visceral sensations.

The former do not even produce the temporary benefit that ensues on their employment in the minor degree of neuropathy: none of the class are sufficiently violent to overcome, even for a time, the intensity of the ganglionic irritation, and, failing in that, add mucous gastric inflammation to it.

The same applies to purgatives, which produce this last condition on a more extended scale, involving the small intestines and the solid abdominal viscera, and hastening the consummation of structural disease that is finally to extinguish the individual. Never have I known a hypochondriac who did not desire to be purged, but never was the purg-

ing sufficiently violent to satisfy him; and why? The most violent remedies of the kind failed to change the condition of the visceral nervous system, the morbid sensations from which continued to be transmitted to the brain, spite of numerous evacuations every day. Purgative enemata, however, are useful in this as in the minor degree of neuropathy, though not to the same extent. In hypochondriasm, their beneficial effect is not so much attributable to the counter-irritation produced, as to the fact of their keeping the secretions of the entire digestive canal in order by affording constant exit to the fœcal portion of them, the irritation of which is thus prevented from extending upwards along the mucous membrane and disordering its secretory powers. To enemata too frequent recourse cannot be had: but it is by no means expedient that they should be of a drastic kind, of croton oil, buckthorn, and others. Castor oil, Epsom salts, and mild aloetic decoction, are sufficiently powerful, and even their employment should be subsequent to the trial of enemata of simple cold or warm water. The diet should also be regulated with reference to the habitual constipation of hypochondriacs, as will be afterwards specified.

No tonics but those of the most stimulating kind have any effect in suspending the hypochondriacal condition. Such result I have more than once observed from the use of *strychnia* in gradually aug-

mented doses. It seems adapted, by its concentrated power, to arouse and maintain for some time such an irritative state of the gastric mucous membrane as proves a stimulus to the central ganglionic tissue: and provided judicious hygienic means are simultaneously applied, it certainly seems to aid them in the production of their beneficial consequences. From the mineral tonics, iron, mercury, and arsenic, I have never derived satisfactory results; the irritation they cause does not bear the really tonic character possessed by the last named vegetable alkali; they would seem to irritate one small portion of the stomach only; and it is well known that their long continued or excessive use tends to excite ulcerative inflammation of one or more spots of the gastric mucous membrane, which is not the case of vegetable tonics. In saying this, it must be understood that I speak of such doses and preparations as would be necessary to a decided effect on the neuropathy. It must not be forgotten that the evidences of mucous inflammation are much more frequent in hypochondriasm than in simple nervousness, and that therefore the contra-indication of tonics is more constant in the former.

Sedatives are almost invariably mischievous in this variety of neuropathy. They are commonly recommended to procure sleep; but as the hypochondriac, for the most part, manages to procure

sleep without them, though of a dreamy, unfreshening kind, opiates are certainly not fitted to ensure rest of any other kind. I have essayed the whole list, and never saw real benefit ensue: they caused forgetfulness, but not renovation. Some time ago I ventured to give prussic acid in an inveterate case of hypochondriasm, and had abundant cause to repent the trial: it did all but produce an apoplectic seizure. Even the medicine of symptoms must fail in the employment of sedatives.

Counter-irritative means are those on which the most reliance may be placed; but they require to be more vigorous in character than in the last variety of neuropathy. The liniments and plasters should be composed of more active medicinal ingredients; the former, of strong fluid *ammonia*, *tincture of cantharides*, the various irritating essential oils, and even the *potassio-tartrate of antimony*; the latter, of cantharides, or the antimonial preparation alluded to, in conjunction with the ammoniacum with mercury, and the compound galbanum plasters. Small and frequently repeated blisters to the inner part of the thigh and arm, along the spine and over the epigastrium, are of the first use. But of all this class of remedies, I have derived the most decided and permanent benefit from the moxa, burned in various places on a line extending from one hypochondriac region to the other,

and crossing the epigastrium; they should always be a feature in the treatment of hypochondriasm. The flannel-roller mentioned when speaking of the treatment of nervousness, is highly praised by the hypochondriac, and should be applied, both because it is agreeable to his mental feelings and a physical support to his sensitive viscera. For the rest, great art is required in frequently changing the form and other characters of these means; for patients of this class soon get tired of one remedy, and always profess to be relieved by each new shape of it—for a time. Indeed, the remark is applicable to all the medicinal remedies employed; unceasing variety is the very soul of the treatment of hypochondriacs, who are all of them egotists, and in that character delighted to behold the medical attendant cudgelling his brain in seeking new remedies for *their* benefit, in the invention of varied combinations for the relief of *their* multiplied complaints. For let it be borne in mind, that in this degree of neuropathy the brain is permanently involved, and that remedial appeals must be made to it as well as to the body; of which more remains to be said.

This brings me to the hygienic treatment of hypochondriasm, of which I would speak as did an enlightened writer of the last century, Frederic Hoffman, the father of solidism, and the unconscious donor of many valuable hints to more mo-

dern pathologists. In his chapter, *De Malo Hypochondriaco*, he says: "*Tunc enim optimum præsidium est nullo uti remedio, sed præcipium sanationis punctum in mutatione ætatis, aëris, vitæ generis, victúsque consistere fide experientiæ compertessimum est.*" No question but these constitute the "punctum præcipium" of the treatment, and that the medicinal means already mentioned are only adjuvants. Still the latter are essential, inasmuch as they amuse the mind, and thus, in their frequent alteration, act as renewed stimulants to the cerebro-spinal system; though for this purpose the least violent should be used. In like manner, (by altering the nutrition of the last-named organs,) do the changes of age, air, mode of life, and food, act. In short, the great aim should be so to act on the internal and external surfaces as to effect a change in the nutrition of the visceral and cerebral nervous systems. Now, though it be true that the visceral nervous system is the principal maintainer of the hypochondriacal symptoms, it is also certain that the nutrition of the cerebro-spinal axis is effectually and fixedly disordered: and not, as in the instance of nervousness, only so far disturbed as to produce increased susceptibility and *irregular* function. In the latter case, as was previously stated, the chief indication is to diminish this susceptibility by subduing the visceral cause alone; at the same time withdrawing from the brain matter all external causes of

irritation, and applying only a negative treatment to it. Very different, however, is the indication when the brain is sufficiently implicated to respond powerfully to the visceral irritation, to aid in its continuance, or even to aggravate it. In such circumstances, it evidently becomes an essential point that the treatment applicable to the cerebro-spinal axis should be positive, that the fixedly morbid nutrition proceeding therein should be altered, by external means, from that state which renders it thus capable of reflecting the visceral irritation. Whilst, therefore, experience and reason unite in opposing the *active* hygienic treatment of simple nervousness, they both press upon us the necessity of its employment in the more intense degree of neuropathy. We shall accordingly find most of the precepts of this kind given under the head of the treatment of simple neuropathy reversed, when we address ourselves to that of the hypochondriacal variety. Thus, the mental distractions that accompany the participation in exciting social scenes; the vigorous exertion of the voluntary power, implied in strong muscular exercise; the shocks given to the entire nervous system, by cold bathing, &c.; all which are found to aggravate the simply nervous condition, prove, for the most part, highly beneficial in the hygienic treatment of hypochondriasm. If these violently disturb the nutrition of the brain, the revulsion is such, that it

ceases to dwell upon the state of the viscera; in other words, a change is produced in it, that renders it less liable to receive and react upon the morbid sensations in the latter. If, whilst this is being effected for the cerebro-spinal system, the medicinal means already recited, and dietetic rules, are favourably operating on the visceral nervous system, the Essential Nature of this kind of neuropathy is assailed at its very core; and the treatment is founded on rational grounds. In summary, it may be said, that in simple neuropathy the aim is to reduce visceral irritation and prevent its further encroachment on the cerebral nutrition; in intense neuropathy, the aim is the same as regards the viscera, but it is necessary, in addition, to change the cerebral nutrition.

To enter more into details. The hypochondriacal neuropathic should be persuaded to the exertion of his volition, in the acts of walking, of riding on horseback, and even of rowing, wrestling, dancing, fencing, and other muscular exercises. He does not lack muscular power, has no trembling of limb, but he wants the mental energy that supposes the exertion of voluntary power; therefore it is that persuasion or command is necessary. He should always walk or ride before his meals, rising early, and using his muscles before his breakfast, doing the same for at least half an hour previous to his time of dining, and not

allowing them to remain too long in the inactivity of bed. Meantime, the other faculties of his brain should be actively engaged on matters alien to his personal health. His imagination, though already exalted on the subject of his viscera, should be roused and directed towards other subjects. His reasoning power, though perturbed only with reference to his health, must be met by that of his physician, who for that purpose must gain much of his confidence: and here it more particularly is that the education and winning manner of the latter stand him in need; in vain would the man who sees in medicine only a system of pharmacy, attempt the cure of a hypochondriac. Mental *causes*, also, must be combated, and the educated tact of a medical attendant is again called upon; he must be ἰσοθεον—the physician of the mind as well as the body. Has disappointed love been the mental disturber? Let the two plans proposed by Ovid be essayed in succession; lay before him the prospect of a new attachment—

——— "Binas habeatis amicas,
Alterius vires subtrahit alter amor:"

Or should this not succeed, let the more objectionable *ruse* be tried—run down the beloved object:

"Exige quod cantet, si quæ est sine voce puella:
Non didicit chordas tangere, posce lyram:
Turgida, si plena est, si fusca, nigra vocetur,
Et poterit dici rustica si quâ proba est."

On this subject, too, Sauvages says, "*Vitia objecti amati detegenda, exageranda.*" Analogous processes should be employed in driving from the mind of the patient the bitter thoughts of abused friendship, of misplaced confidence, of ruined fortunes, of religious despair, &c. In place of these, other objects of thought should be presented, or a contrary feeling with respect to them aroused. It is much easier to engage the mind in some novel train of reflection than to reason the patient out of the *idée fixe* that haunts him, by engendering a more rational one on the same subject. To particularize on this head would be endless; the physician must use his wits in detecting, as well as combating, each mental cause. Suffice it to say, that one series of thoughts must be opposed to the dominant thoughts, one series of passions to that which produced the disorder; and that the *agremens* of society, in all their forms, those of travelling, of study, or of avocation, are the means towards that end.

The diet of hypochondriacal neuropathics is, perhaps, less amenable to written rules than is generally imagined. You shall meet with one in whom animal food exasperates the symptoms, and again with others, whose state is aggravated by vegetable diet. More than this, the same individual is variously affected at different times by the same kind of diet. Giving much attention

to this subject, I have generally found reason to suspect that partial and transitory inflammations of the gastric mucous lining frequently take place in these patients, and that, when it occurs, animal food proves hurtful. On such occasions, too, the appetite for any kind of food is more or less diminished, thirst more pressing than ordinarily, and the bowels more than usually obstinate. In order to ascertain this state, minute inspection of the tongue, fauces, back of the throat, the nostrils and eyelids, is necessary; pain, on pressure of the epigastrium, may or may not be present, and in itself is by no means pathognomonic of the condition. And it is to be remarked, that chronic gastric inflammation is a not unfrequent concomitant of the whole course of intense neuropathy, and, that when it is so, we shall find a preponderance of vegetable matter in the articles of food, more agreeable to the patient's stomach, and less aggravating of his general symptoms. I speak not here of green and succulent, or raw vegetables, but of the pure farinaceous and amylaceous; of which, the best are, stale bread and well-boiled potatoes; for the former disagree under any circumstances, even the stomach being sound. The same rule will apply still more forcibly, when neuropathy has ceased to be the isolated complaint,—that is, when the nervous has passed into the disorganizing state, the secerning tissues of the stomach and solid vis-

cera exhibiting morbid deposits, as evidenced by the constant anorexia, nausea, bad taste of the mouth, foulness of the tongue, permanent heat of the skin, and emaciation; the whole giving the assurance of irremediable disorder, and, sooner or later, of its termination in death. Rules for the diet of hypochondriacs, then, to be useful, should be conditional; and from all that I have observed, the conditions should be grounded on the presence or absence of gastric inflammation. Being present, no benefit can be derived from concentrated and stimulating diet: the secretions of the stomach are in a morbid state, and the assimilation of the food necessarily imperfect, whilst, at the same time, the stimulus of highly nutritive aliment is augmenting the secretory irritation. In a great number of instances of hypochondriasm, however, no such inflammation obtains; the appetite is good, but still the digestion, though perfect, is accompanied with flatulence and uneasiness, owing to the *increased susceptibility* of the organ, as derived from the irritative condition of its nervous centre; a susceptibility which, upon the ingress of alimentary matter into its cavity, causes the lining membrane to secrete not only the proper assimilating juices, (and those frequently in great quantity,) but also other combinations that are not essential to the assimilative process. It then behoves us to prescribe such food as, from its constitution, shall occupy the shortest

possible period in digestion; for the flatulence increases the cerebral disorder by augmenting the visceral sensations. Such aliment will be found in the thoroughly cooked meat, and the bread, recommended in simple nervousness; to aid in the speedy digestion of which, the stimulus afforded by a small quantity of weak brandy and water may be added. Vegetables, which are less stimulating to the stomach, excite its secretorial power less, are less readily assimilative, and therefore remain longer in the stomach, also cause a secretion of air, and for a long period; on this account it is that they are objectionable, and not, as is vulgarly imagined, because themselves are converted into the aëriform state by fermentation. Infusions, or decoctions of such, therefore, in the shape of tea, coffee, and chocolate, should be avoided, or taken in the least possible quantities, on the same principle that solid vegetable matter is. In the shape of imperfectly fermented fluids, as cider, perry, ale, porter, &c., they are objectionable, for the same reason. It is only when they have arrived at the more perfect fermentation of wine and spirit, and are deprived of their nutritious matter, that they become fit stimulants to the stomach of the hypochondriac, and assist in hastening the assimilation of animal food. Moreover, as it is not desirable that the uneasiness attendant on digestion should be frequently repeated, the meals should not follow in

rapid succession. For in neuropathy, so intense as is the hypochondriacal, the merely sustaining nutrition of the body should be looked to in the taking of food:—not an ounce should be allowed more than is sufficient to maintain the functions and prevent emaciation. And here is another reason why the powers of the stomach should be reserved for the digestion of nutritious aliment in small space, and not wasted on masses of vegetable matter and oceans of "slops" that, after all, afford but slight nutriment to the economy at large. All this, however, is inapplicable when gastric inflammation is present; for, above all, it is essential that *it* should be removed; this it is which, exasperated or long continued, kills; whereas, the purely neuropathic state is never fatal.

Sufficient has been said to give a general notion of the circumstances that ought to regulate us in the prescription of diet. To enter into the details of the *materia dietetica*, and pronounce upon each of its articles, would be to moot scores of *questiones vexatæ;* for on scarcely one of them do two individuals agree—this one declaring cheese, for instance, to be of the most facile digestion, that one damning it as only fit for an ostrich's stomach, &c. That such details are highly interesting to the general reader, I am perfectly aware—to the hypochondriac, especially: but even were this essay intended, from its construction, for the perusal of the

laity, I hold that no minute dietetic rules *can* be faithfully laid down without personal reference to the inquirer; whilst, in the instance of the hypochondriac, already too intent on "what he shall eat, and what he shall drink, and wherewithal he shall be clothed," such reading is only adding fuel to the fire. Better far is it to give him explanation *wherefore* this or that species of aliment is suitable, or otherwise, than further to bewilder his confused brain with an interminable "bill of fare," containing, very probably, contradictory dishes, and founded on no sound physiological views. Indeed, much of the secret of gaining the confidence, and thus of effecting the cure, of the patient, consists in certifying to him that we hold such views, and are making every effort to impart them to him for his own benefit and to the removal of the erroneous impressions he has conceived on the subject of his functions. On the physiological condition of the stomach, therefore, at the time the hypochondriac is visited, the regulation of diet has been here founded; and as that condition is apt to vary, and the variations are not easily to be appreciated by himself, the remark with which I commenced the subject,—namely, "that his diet was scarcely amenable to written rules," holds good.

The clothing of hypochondriacs requires no lengthened comment, the more, as the observations made when speaking of the treatment of nervous-

ness are for the most part applicable here. The skin should be kept as nearly as may be at an equable temperature, and, above all, free from any accumulation of sebaceous secretion, which is so copiously excreted in the generality of neuropathics. For this purpose, frequent change of the under garments and assiduous ablution are essential. The exceedingly warm clothing that is recommended by some writers, supposes the presence of intestinal mucous inflammation, which is by no means constant. The majority of the patients in question are persons with free, if not ruddy, cutaneous circulation; to prescribe multiplied clothing to such is to confirm them in their exaggerated ideas concerning their complaints; for even in pronouncing on this point, reference should be had to the morbid nutrition of the brain. I have known hypochondriacs who persevered in wearing soiled flannel next the skin from a fear of internal inflammation ensuing on changing it: to such I have endeavoured to shew the danger of disordering the cutaneous secretions by its continued use, and the certainty of benefit from their equable deposition, which could only be effected by changing the tissue that was to imbibe them. The support of the abdominal viscera, by means of a roller or belt, has been previously alluded to. Nor should the friction of the feet be neglected.

As regards the temperature of the atmosphere

that is advisable, it must be regulated very much by the patient's feelings and the presence of intestinal inflammation. Most hypochondriacs delight in the warmth of summer, imagining that their debilitated bodies can ill resist the cold of winter. So far as this delight is a pleasurable feeling it operates beneficially on the patient, and so far a warm atmosphere may be said to be advisable. But it must be the solar warmth; the artificial heat of stoves and fires encourages the excessive secretion of the skin, besides diminishing the process of sanguification, and this without bringing the genial influence to the mind which the full and glorious light and heat of day imparts. The poet knew this moral influence of climate, when he exclaimed:

> "Blest power of sunshine! genial day!
> What life, what hope, are in thy ray!
> To feel thee is such real bliss,
> That had the world no joy but this,
> To sit in sunshine, calm and sweet,
> It were a world too exquisite
> For man to leave it for the gloom,
> The deep, cold shadow of the tomb!"

In this manner I believe it to be that southern climes produce much of their good effect: nothing adds more to the gloom of a desponding mind than the vicissitudes of weather, with a predominance of the bad, as is the case in our island: whilst,

on the other hand, the serene mind and serene sky, the warm heart and glowing sun, are for the most part coincident. Dry, cold air, in conjunction with brisk exercise, is not without benefit to the hypochondriac; but the appeal appears to be less to the mind than in the former instance. The cold produces a counter-irritative condition of the skin, whilst the exercise of volition tends to alter the morbid nutrition going on in the cerebro-spinal axis. It is, however, frequently difficult to persuade a confirmed neuropathic to take exercise in cold air; he will bask in the sunshine, but dreads the eager air of a clear frosty day. The physician, once established in his confidence, he will cease to do this; and certainly the latter is well worth the trouble of obtaining when it gives the power of persuading to exercise on horseback in cold weather—without exception, one of the most powerful hygienic means that can be employed. Nor can the pace be too rapid, nor the horse too rough. Mounted on such an one, the rider soon begins to find that he really *can* bear a considerable quantity of knocking about, that his arms are *not* of glass, nor his head of butter: his horse tramples these and all other such vagaries under foot.

With the view of exciting a tonic irritation of the surface, as also producing a shock that shall alter the nutrition of the nervous system at

large, cold bathing is recommended and practised. The first of these objects requires that the water should be of low temperature, and the bathing accompanied with friction, which should be briskly applied, bringing the voluntary muscles into action, as well as the skin. The second object likewise implies a low temperature of the water, and that it should be suddenly applied; for not only, when so used, is the subsequent cutaneous irritation greater and more adapted to obviate the intensity of the internal nervous irritation, but the sudden impress of the cold has a powerful influence on the cerebro-spinal nutrition, as is seen in the shiverings, sometimes almost convulsive, that ensue. Now in this, as in exercise in cold air, one source of normal irritation is created, and one source of morbid irritation is removed,—circumstances which play beneficially on the visceral nervous system—the starting point of the whole disorder. On the one hand, a tonic irritation of the skin is established, tending to diminish that within; whilst on the other, the responsive morbid nutrition of the cerebro-spinal system, which was continually reflecting the disordered sensations of the viscera, is, at least *pro tempore*, exchanged for a nutritive process more nearly approaching to the normal. If, therefore, we would derive benefit from bathing, the water should be cold, and its application to the

surface sudden. Cold shower-baths are the best adapted to produce the double effect alluded to; and the shock they give is further increased if the feet are placed in hot water, the cold meantime descending on the head and shoulders. Immediately after such bathing, the patient should betake himself to brisk walking, or to horseback; after which, he will find his dinner both desirable and less troublesome in its digestion. Sea-bathing, commencing with a sudden plunge, answers the same end; and if the patient is able to swim, he also has the advantage of violent muscular exertion added to that of the shock; if not, he should practise strong friction of the skin with a flesh brush, or even with his hands, all the time he is in the water. None of these beneficial effects can be obtained from warm baths; they give no shock to the system; no irritative reaction of the surface follows their employment; they rather tend to produce congestion of the brain; their use is not attended with any exertion, mental or bodily; and, finally, doing none of these, they are apt to confirm the patient's mind in the belief of his exaggerated ailments; as, indeed, any remedy will whose effect is not powerfully to rouse his volition on the one hand, and counter-irritate the visceral disorder on the other.

No mention has been here made of the baths at the various inland watering-places of this kingdom,

or of the continent. The hackneyed remark that these spots are beneficial rather by the novel turn they give to the ideas than by any superiority in the water in which they abound, may now be once more advanced. Residence in them obliges an exertion of the volition which would not be made in the monotonous domestic domicile, or where, perhaps, the primary cause, if mental, would be liable to incessant recurrence. In order to the same end, the place of residence should, if practicable, be frequently changed; but this comes under the head of travelling, as a hygienic means, which has been already mentioned, and the rationale of the operation of which is, I trust, sufficiently clear from what has preceded.

Galvanism, as one of the most vehement of known stimulants of the cerebro-spinal system, I have essayed in two cases of inveterate neuropathy; in one of which it produced permanent amelioration of the symptoms: the shock was passed repeatedly between the nape of the neck and the epigastrium, and the application made daily during the period of ten days. In another instance, I have taken electric sparks from the epigastrium for several successive days, with considerable benefit. My experience of these remedies, however, is not sufficiently extensive to warrant a disquisition on, or decided recommendation of them. On future

occasions, I shall certainly test them in a more persevering manner.

It need scarcely be added that, in the treatment, reference must invariably be made to the etiology of this condition, and the causes withdrawn, when it is practicable so to do. Moral causes, being the most striking and immediately interesting, are seldom neglected; but the retropulsion of a circumscribed cutaneous disorder, the drying up of a minute ulcer, or the disappearance of hemorrhoids, though frequently not inquired after, are not the less causes, and, as such, should be removed either by their renewal, or by the substitution of some equivalent external irritation.

Nor is it necessary that I should enter upon the treatment of neuropathy when organic changes of the abdominal viscera have been superadded to the purely nervous condition. The object of this treatise is confined to the exposition of the latter only, with more particular reference to its proximate cause and the principles of its treatment. But if that cause shall have persisted so long as to involve the visceral tissues in organic disease, it is no longer the neuropathic condition that is to be treated; *that* becomes secondary, for on the former hangs the question of life and death, and all that can be done is, to palliate the sufferings of one and smooth the way towards the other. The principles of treat-

ment, therefore, are changed with the difference of internal disorder and the different end in view. In the purely nervous state, the object is curative; in the structural disorder, it is palliative; and vastly different would be the operation of the same means if applied to both states. My subject is functional disease: organic disease belongs to another domain.

THE END.

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